



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

JULY 2, 2007

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

VIA CERTIFIED MAIL

7099 3220 0003 2546 4156

Mr. Kenneth L. Mentzel, Manager
Environmental Control
United States Steel Corporation, Gary Works
One North Broadway
Gary, Indiana 46402

Re: NPDES Permit No. IN0000281
Draft Permit
United States Steel Corporation, Gary Works
Gary, Indiana, Lake County

Dear Mr. Mentzel:

Your application and supporting documents have been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is a copy of the draft NPDES Permit.

Pursuant to IC 13-15-5-1, IDEM will publish a general notice in the newspaper with the largest general circulation within the above county. A 30-day comment period is available in order to solicit input from interested parties, including the general public.

A Public Meeting has been scheduled at the Commissioners initiative relative to the draft permit and will be held on August 01, 2007 at 6:00p.m., LOCAL time at the Gary Public Library, Main Branch in the Auditorium, located at 220 West 5th Street, in Gary, Indiana 46402.

Please review this draft permit and associated documents carefully to become familiar with the proposed terms and conditions. Comments concerning the draft permit should be submitted in accordance with the procedure outlined in the enclosed public notice form. We suggest that you meet with us to discuss major concerns or objections you may have with the draft permit.

Questions concerning this draft permit may be addressed to Stan Rigney of my staff, at 317/232-8709.

Sincerely,

A handwritten signature in cursive script that reads "Beth L. Tallon".

Beth L. Tallon
Section Chief
Industrial NPDES Permits Section
Office of Water Quality

Enclosures

cc: Lake County Health Department (w/enclosures)
City of Gary Health Department (w/enclosures)
U.S. EPA, Region 5 (w/enclosures)
Save the Dunes Council (w/enclosures)
Gary Public Library (w/enclosures)

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), and IDEM's authority under IC13-15,

U.S. STEEL – GARY WORKS
UNITED STATES STEEL CORPORATION

is authorized to discharge via designated outfall locations, from an Integrated Steel Mill facility which manufactures iron and steel products, and coke and coke making byproducts that is located at One North Broadway, Gary, Indiana 46402, to receiving waters named the Grand Calumet River, Lake Michigan and Stockton Pond in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III hereof.

Effective Date: _____

Expiration Date: _____

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Signed on _____ for the Indiana Department of Environmental Management.

Bruno Pigott
Assistant Commissioner
Office of Water Quality

TREATMENT FACILITY CLASSIFICATION

The discharger has seven industrial wastewater treatment plants rated as Class D, classified in accordance with 327 IAC 5-22, Classification of Wastewater Treatment Plants.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date or until the permittee redirects the flow from Outfall 010 to Outfall 005, the permittee is authorized to discharge from Outfall 005. The discharge is limited to non-contact cooling water used in the coal preparation, coke and coke byproducts manufacturing processes, non-contact cooling water used in the coke oven gas desulfurization facility, non-contact cooling water used in the coke plant boiler houses, treated process wastewater from the coke and coke byproducts manufacturing processes (internal Outfall 501)(which may include and treated SWD-1 Landfill wastewater currently discharging through Outfall 015), steam condensate, and storm water runoff. Samples taken in compliance with the monitoring requirements below (except Temp., see Footnote [4]), shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [11][14][20] Outfall 005

Parameter	Quantity or Loading			Table 1 Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average Report	Daily Maximum Report	Units	Monthly Average Report	Daily Maximum Report	Units		
Flow	-----	-----	MGD	-	-	-	Daily	Continuous
Oil & Grease [1]	-----	-----	-----	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs.
Selenium [5]	2.1	4.2	lbs/day	4.1	8.2	ug/l	1 X Weekly	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hrs
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	ug/l	2 X Weekly	24-Hr. Comp.
Final [13]	0.046	0.11	lbs/day	0.091	0.22	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N) [6]								
Summer	217.0	432.0	lbs/day	720	1,700	ug/l	1 X Weekly	24-Hr. Comp.
Winter	437.0	962.0	lbs/day	1,200	2,800	ug/l	1 X Weekly	24-Hr. Comp.
Free Cyanide [2]								
Season 1 [18]	3.9	9.2	lbs/day	7.6	18.0	ug/l	2 X Weekly	See Part I.Q.
Season 2 [18]								
Interim	3.9	9.2	lbs/day	7.6	18.0	ug/l	2 X Weekly	See Part I.Q.
Final [17]	3.1	6.6	lbs/day	6.0	13.0	ug/l	2 X Weekly	See Part I.Q.
Mercury [5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [16]	Grab
Final [12]	0.0007	0.002	lbs/day	1.3	3.2	ng/l	Bi-Monthly [16]	Grab

Discharge Limitations [11][14][20]
Outfall 005 (Table 1 Continued)

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
Total Residual Chlorine [8][3]	4.1	9.2 [10]	lbs/day	8	18	ug/l	Daily [9]	Grab
Fluoride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Chloride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Whole Effluent Toxicity Testing (WETT)	See Part I.L., Biomonitoring Requirements							
Temperature [4]								
Interim	-----	-----	-----	-----	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Final	-----	-----	-----	-----	Report	°F	Daily	Continuous
Temperature Exceedance Time [15][4]		Report	Total Hours	-----	-----	-----	Daily	
Temperature Exceedance Time 12 Month Total [19]	-----	-----	Total Hours	-----	-----	-----	Monthly Report	12 Mo. Total

Table 2

Parameter	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum			
pH	6.0	9.0	s.u.	3 X Weekly	Grab

- [1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [2] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.
- [3] See Part I.G. of the permit for Pollutant Minimization Requirements.
- [4] The monitoring location for temperature shall be in the Grand Calumet River approximately 100 feet downstream of Outfall 005. See Part III.A., for additional Temperature Requirements.
- [5] The permittee shall monitor and report the identified metals as total recoverable metals.
- [6] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.
- [7] See Part I.R. for Mercury Monitoring Requirements
- [8] See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [9] Monitoring for TRC shall be 1 X Daily during Zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed.

- [10] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 30.6 lbs/day for Outfall 005.
- [11] See the Fact Sheet for the water treatment additives in use at Outfall 005 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [12] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [13] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene. Interim limitations shall apply until the final limits take effect.
- [14] To ensure that process waters from current coke plant operations are not discharged, US Steel shall certify to that effect with each monthly discharge monitoring report as follows:
- "I certify that, to the best of my knowledge and belief, and having consulted with the manager of coke plant operations and coke plant personnel responsible for managing and disposing of cokemaking and by-product recovery wastewater, that process wastewaters generated from cokemaking and by-product recovery operations have not been discharged to the Grand Calumet River or to Lake Michigan through any outfall or conveyance since the last discharge monitoring report, except for the treated coke plant by-product recovery wastewater in Internal Outfall 501."
- [15] The "Temperature Exceedance Time" requirement does not take effect until the final temperature limits for Outfall 005 become effective. See Part III of this permit.
- [16] Bi-Monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [17] See Part I.D. of the permit for the Compliance Schedule for Free Cyanide (Season 2).

- [18] Season 1 ("salmonids absent") limitations apply April 1 – September 30 of each year. Season 2 ("salmonids present") limitations apply October 1 – March 31 of each year. These seasons are based on times when salmonids occur at the site.

The permittee may conduct instream studies to try to prove that salmonids do not occur at the site during December, January, February, or March. The permittee must submit work plans prior to conducting such studies to IDEM for approval.

- [19] The "Temperature Exceedance Time 12 Month Total" requirement does not take effect until the final temperature limits for Outfall 005 become effective. A running total of hours over the limits in the Table from Part III.A., for the most recent twelve (12) month period shall be reported every month. The most recent twelve (12) months shall include the current month and the previous eleven (11) months of temperature data.

- [20] See Part I.B. of the permit for the Narrative Water Quality Standards.

2. During the period beginning when the flow from Outfall 010 has been redirected to Outfall 005 and lasting until the expiration date, the permittee is authorized to discharge the combined flow through Outfall 005. The discharge is limited to non-contact cooling water used in the coal preparation, coke and coke byproducts manufacturing processes, non-contact cooling water used in the coke oven gas desulfurization facility, non-contact cooling water used in the coke plant boiler houses, treated process wastewater from the coke and coke byproducts manufacturing processes (internal Outfall 501)(which may include and treated SWD-1 Landfill wastewater currently discharging through Outfall 015), treated blast furnace recycle system wastewater (through Internal Outfall 508), steam condensate, and storm water runoff. Samples taken in compliance with the monitoring requirements below (except Temp., see Footnote [4]), shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [11][14][20]

Outfall 005

Table 1

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average Report	Daily Maximum Report		Monthly Average Report	Daily Maximum Report			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [1]	-----	-----	-----	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs.
Selenium [5]	2.14	4.3	lbs/day	4.1	8.2	ug/l	1 X Weekly	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hrs
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	ug/l	2 X Weekly	24-Hr. Comp.
Final [13]	0.047	0.11	lbs/day	0.091	0.22	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N) [6]								
Summer	330	770	lbs/day	720	1,700	ug/l	1 X Weekly	24-Hr. Comp.
Winter	550	1,300	lbs/day	1,200	2,800	ug/l	1 X Weekly	24-Hr. Comp.
Free Cyanide [2]								
Season 1 [18]	4.0	9.4	lbs/day	7.6	18.0	ug/l	2 X Weekly	See Part I.Q.
Season 2 [18]								
Interim	4.0	9.4	lbs/day	7.6	18.0	ug/l	2 X Weekly	See Part I.Q.
Final [17]	3.1	6.8	lbs/day	6.0	13.0	ug/l	2 X Weekly	See Part I.Q.
Mercury [5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [16]	Grab
Final [12]	0.0007	0.002	lbs/day	1.3	3.2	ng/l	Bi-Monthly [16]	Grab
Total Residual Chlorine [8][3]	4.2	9.4 [10]	lbs/day	8	18	ug/l	Daily [9]	Grab
Fluoride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Chloride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Whole Effluent Toxicity Testing (WETT)								
Temperature [4]								
Interim	-----	-----	-----	-----	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Final	-----	-----	-----	-----	Report	°F	Daily	Continuous
Temperature Exceedance Time [15][4]		Report	Total Hours	-----	-----	-----	Daily	
Temperature Exceedance Time 12 Month Total [19]	-----	-----	Total Hours	-----	-----	-----	Monthly Report	12 Mo. Total

Table 2

Parameter	Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Daily	Daily	Units		
	<u>Minimum</u>	<u>Maximum</u>			
pH	6.0	9.0	s.u.	3 X Weekly	Grab

[1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[2] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.

[3] See Part I.G. of the permit for Pollutant Minimization Requirements.

[4] The monitoring location for temperature shall be in the Grand Calumet River approximately 100 feet downstream of Outfall 005. See Part III.A., for additional Temperature Requirements.

[5] The permittee shall monitor and report the identified metals as total recoverable metals.

[6] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.

[7] See Part I.R. for Mercury Monitoring Requirements

[8] See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[9] Monitoring for TRC shall be 1 X Daily during Zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed.

[10] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 31.3 lbs/day for Outfall 005.

[11] See the Fact Sheet for the water treatment additives in use at Outfall 005 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

- [12] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [13] The permittee has up to a Five (5) year schedule of compliance as outlined in Part I.F. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene. Interim limitations shall apply until the final limits take effect.
- [14] To ensure that process waters from current coke plant operations are not discharged, US Steel shall certify to that effect with each monthly discharge monitoring report as follows:
- "I certify that, to the best of my knowledge and belief, and having consulted with the manager of coke plant operations and coke plant personnel responsible for managing and disposing of cokemaking and by-product recovery wastewater, that process wastewaters generated from cokemaking and by-product recovery operations have not been discharged to the Grand Calumet River or to Lake Michigan through any outfall or conveyance since the last discharge monitoring report, except for the treated coke plant by-product recovery wastewater in Internal Outfall 501."
- [15] The "Temperature Exceedance Time" requirement does not take effect until the final temperature limits for Outfall 005 become effective. See Part III of this permit.
- [16] Bi-Monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [17] See Part I.D. of the permit for the Compliance Schedule for Free Cyanide (Season 2).
- [18] Season 1 ("salmonids absent") limitations apply April 1 – September 30 of each year. Season 2 ("salmonids present") limitations apply October 1 – March 31 of each year. These seasons are based on times when salmonids occur at the site.

The permittee may conduct instream studies to try to prove that salmonids do not occur at the site during December, January, February, or March. The permittee must submit work plans prior to conducting such studies to IDEM for approval.

- [19] The "Temperature Exceedance Time 12 Month Total" requirement does not take effect until the final temperature limits for Outfall 005 become effective. A running total of hours over the limits in the Table from Part III.A., for the most recent twelve (12) month period shall be reported every month. The most recent

twelve (12) months shall include the current month and the previous eleven (11) months of temperature data.

[20] See Part I.B. of the permit for the Narrative Water Quality Standards.

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge cokemaking and by-product recovery area treatment system water including groundwater from the East Side Solid Waste Management Area (SWMA) and treated SWD-1 Landfill wastewater, from Internal Outfall 501 through Outfall 005, to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS
Internal Outfall 501

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
TSS	706	1,359	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	-----	50.4	lbs/day	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs.
Selenium [1]	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Benzene	Report	0.25	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hrs
Benzo-a-pyrene	Report	0.25	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Naphthalene	-----	0.25	lbs/day	-----	Report	ug/l	2 X Weekly	24-Hr. Comp.
Phenols (4AAP)	0.25	0.50	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	126.4	429.0	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Cyanide [2]								
Total	27.7	50.4	lbs/day	Report	Report	ug/l	2 X Weekly	See Part I.Q.
Free	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	See Part I.Q.

- [1] The permittee shall monitor and report the identified metals as total recoverable metals.
- [2] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.

4. During the period beginning on the effective date of this permit and lasting until the expiration date or until the flow currently discharging from Outfall 010 has been re-directed through Outfall 005, the permittee is authorized to discharge non-contact cooling water used in coal preparation, coke and coke byproducts manufacturing processes, treated blast furnace recycle system wastewater (through Internal Outfall 508), and storm water runoff via Outfall 010 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][15][16]

Outfall 010

Table 1

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2]	-----	-----	-----	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs.
Total Residual Chlorine [8][18]	0.1	0.2 [11]	lbs/day	8	18	ug/l	Daily [9]	Grab
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	ug/l	2 X Weekly	24-Hr. Comp.
Final [14]	0.001	0.003	lbs/day	0.095	0.23	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N) [10] [17]								
Summer	113.0	338.0	lbs/day	720	1,700	ug/l	1 X Monthly	24-Hr. Comp.
Winter	113.0	338.0	lbs/day	1,200	2,800	ug/l	1 X Monthly	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hrs
Mercury [5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [12]	Grab
Final [13]	0.00002	0.00004	lbs/day	1.3	3.2	ng/l	Bi-Monthly [12]	Grab
Free Cyanide [3]	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	See Part I.Q.
Chloride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Lead [5][6]	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Zinc [5][6]	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Temperature [4]	-----	-----	-----	-----	Report	°F	1 X Weekly	6 Grabs/24-Hrs.
Whole Effluent Toxicity Testing (WETT)				See Part I.L., Biomonitoring Requirements				

Table 2

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	3 X Weekly	Grab

- [1] There shall be no discharge of coke and coke byproducts manufacturing process wastewater (except treated blast furnace recycle system wastewater - Internal Outfall 508), other than non-contact cooling water through Outfall 010.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

- [3] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.
- [4] See Part III.A. for additional Temperature Requirements.
- [5] The permittee shall monitor and report the identified metals as total recoverable metals.
- [6] The monitoring and reporting requirements shall apply only when there is a discharge from the blast furnace recycle system through Internal Outfall 508.
- [7] See Part I.R. for Mercury Monitoring Requirements.
- [8] See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed.
- [10] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.
- [11] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.7 lbs/day for Outfall 010.
- [12] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [13] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [14] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene. Interim limitations shall apply until the final limits take effect.
- [15] See the Fact Sheet for the water treatment additives in use at Outfall 010 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 010, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or

acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

- [16] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [17] US Steel is to monitor and report ammonia from Outfall 010 when there is a discharge from Outfall 508 up to a frequency of 1 X Weekly. Sampling of 010 and 508 are to occur on the same day.
- [18] See Part I.G. of the permit for Pollutant Minimization Requirements.

5. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge treated Blast Furnace Recycle System wastewater from Internal Outfall 508 to the Grand Calumet River via Outfall 010 or beginning when the discharge from Outfall 010 has been redirected to Outfall 005, the permittee is authorized to discharge treated Blast Furnace Recycle System wastewater from Internal Outfall 508 to the Grand Calumet River via Outfall 005. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS
Internal Outfall 508

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
TSS	500	750	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	113.0	338.0	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Cyanide [1]	3.18	7.38	lbs/day	Report	Report	mg/l	2 X Weekly	See Part I.Q.
Phenols (4AAP)	1.13	2.25	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [2]	2.23	5.17	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [2]	5.1	15.2	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
pH	-----	-----	-----	-----	Report	s.u.	1 X Weekly	Grab

- [1] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.
- [2] The permittee shall monitor and report the identified metals as total recoverable metals.

6. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from blast furnace and sinter plant, steam condensate, treated SWD-1 Landfill wastewater, North Tennessee Street Drainage Sump effluent, and storm water runoff through Outfall 015 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][11]
Outfall 015

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil & Grease [2]	-----	-----	-----	Report	Report	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Free Cyanide [3]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Lead [4]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Zinc [4]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Temperature [5]	-----	-----	-----	-----	Report	°F	1 X Weekly	6 Grabs/24-Hrs.
Total Residual Chlorine [12]	0.11	0.25 [6]	lbs/day	8	18	ug/l	Daily [7]	Grab
Mercury [4][8][9]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [10]	Grab
Final	0.00002	0.00004	lbs/day	1.3	3.2	ng/l	Bi-Monthly [10]	Grab

Parameter	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum			
pH	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] The discharge of non-contact cooling waters from blast furnace and sintering operations is permitted only through Outfalls 015, 018, 019, and 035.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [3] Cyanide shall be measured and reported as Free Cyanide. See Part I.Q. for additional requirements.
- [4] The permittee shall measure and report identified metals as total recoverable metals.
- [5] See Part III.A., for additional Temperature Requirements.

- [6] Compliance with the daily maximum mass value will be demonstrated if the calculated value is less than 0.8 lbs/day.
- [7] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [8] See Part I.R. for Mercury Monitoring Requirements.
- [9] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [10] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [11] See the Fact Sheet for the water treatment additives in use at Outfall 015 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 015, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [12] See Part I.G. of the permit for Pollutant Minimization Requirements.

7. During the period beginning on the effective date of this permit and lasting until the expiration date or until the flow currently discharging from Outfall 607 has been re-directed to the Coke Plant Wastewater treatment system and discharging through Outfall 501, the permittee is authorized to discharge treated SWD-1 Landfill wastewaters through Outfall 607 to the Grand Calumet River via Outfall 015. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS

Outfall 607

Parameter	Quantity or Loading		Units	Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum	Units		
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	Report	Report	lbs/day	30.0	60.0	mg/l	1 X Weekly	24-Hr. Comp.
Oil & Grease	-----	-----	-----	10.0	15.0	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
CBOD ₅	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Free Cyanide [1]	Report	Report	lbs/day	Report	Report	ug/l	1 X Monthly	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Lead [2]	Report	Report	lbs/day	Report	Report	ug/l	1 X Monthly	24-Hr. Comp.
Zinc [2]	Report	Report	lbs/day	Report	Report	ug/l	1 X Monthly	24-Hr. Comp.
Benzo(a)pyrene	Report	Report	lbs/day	Report	Report	ug/l	1 X Quarter[3]	24-Hr. Comp.
pH	-----	-----	-----	-----	Report	s.u.	1 X Weekly	Grab

- [1] Cyanide shall be measured and reported as Free Cyanide. See Part I.Q. of the permit for additional requirements.
- [2] The permittee shall measure and report identified metals as total recoverable metals.
- [3] Samples shall be taken once during each of the four annual quarters:
- (A) January-February-March;
 - (B) April-May-June;
 - (C) July-August-September; and
 - (D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

8. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge only storm water from Outfall 017 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [4][5]
Outfall 017

<u>Parameter</u>	Quantity or Loading			Table 1 Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units		
Flow	Report	Report	MGD	-	-	-	Daily	24-Hr. Total
Total Suspended Solids	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter [6]	Grab
Oil & Grease [1]	-----	-----	-----	-----	Report	mg/l	1 X Quarter [6]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter [6]	Grab
Free Cyanide [2]	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter [6]	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter [6]	Grab
Lead [3]	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter [6]	Grab
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter [6]	Grab

<u>Parameter</u>	Table 2 Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum	Units		
pH	Report	Report	s.u.	1 X Quarter [6]	Grab

- [1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [2] Cyanide shall be measured and reported as Free Cyanide. See Part I.Q. for additional requirements.
- [3] The permittee shall measure and report identified metals as total recoverable metals.
- [4] All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. There shall be a minimum of three (3) months between reported sampling events.

For each sample taken, the permittee shall record the duration and total rainfall of the storm event, the number of hours between beginning of the storm measured and the end of the previous measurable rain event, and the outside temperature at the time of sampling.

A grab sample shall be taken during the first thirty (30) minutes of the discharge (or as soon thereafter as practicable).

The permittee shall conduct a visual inspection at the outfall(s) on an annual basis. During visual inspections the permittee shall report the presence of turbidity, color, foam, solids, floatables, and oil sheen. The results of the visual inspections shall be recorded and maintained as part of the SWP3 plan. Visual inspections should allow for timely adjustments to be made to the SWP3. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations.

[5] See Part I.B. of the permit for the Narrative Water Quality Standards.

[6] Samples shall be taken once during each of the four annual quarters:

- (A) January-February-March;
- (B) April-May-June;
- (C) July-August-September; and
- (D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

9. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge blast furnace and sinter plant non-contact cooling water, storm water runoff and turboboiler blowdown, stock house misc. steam condensate & air conditioner non-contact water through Outfall 018 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][10][13]
Outfall 018

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2]	-----	-----	-----	Report	Report	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Total Cyanide [4]	-----	Report	lbs/day	-----	Report	ug/l	1 X Monthly	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Copper [5][11]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Final	5.4	11.2	lbs/day	0.013	0.027	mg/l	1 X Weekly	24-Hr. Comp.
Mercury [5][6][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [12]	Grab
Final	0.0005	0.0013	lbs/day	1.3	3.2	ng/l	Bi-Monthly [12]	Grab
Temperature [3]	-----	-----	-----	-----	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Total Residual Chlorine [14]	3.3	7.5 [8]	lbs/day	8	18	ug/l	Daily [9]	Grab

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] The permittee may discharge noncontact cooling water from blast furnace and sintering operations only through Outfalls 015, 018, 019, and 035.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [3] See Part III.A. of the permit for the Temperature Requirements.
- [4] Cyanide shall be measured and reported as Total Cyanide. See Part I.Q. for additional requirements.

- [5] The permittee shall measure and report identified metals as total recoverable metals.
- [6] See Part I.R. for Mercury Monitoring Requirements.
- [7] The permittee has up to a five (5) schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [8] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 25.0 lbs/day.
- [9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [10] See the Fact Sheet for the water treatment additives in use at Outfall 018 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 018, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [11] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.D., of the permit in which to meet the final effluent limitation for Copper. Interim limitations shall apply until the final limits take effect.
- [12] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [13] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [14] See Part I.G. of the permit for Pollutant Minimization Requirements.

10. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge blast furnace and sinter plant non-contact cooling water, storm water runoff, power station and No. 2 Q-BOP non-contact cooling water, CWT plant brine regenerant, turboboiler blowdown and steam condensate through Outfall 019 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][9][11]
Outfall 019

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>		
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [12]	-----	-----	-----	Report	Report	mg/l	1 X Weekly	Grab
Temperature [2]	-----	-----	-----	-----	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Total Cyanide [3]	-----	Report	lbs/day	-----	Report	mg/l	1 X Monthly	See Part I.Q.
Mercury [4][5][6]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [10]	Grab
Final	0.0006	0.0014	lbs/day	1.3	3.2	ng/l	Bi-Monthly [10]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Total Residual Chlorine [13]	3.5	7.8 [7]	lbs/day	8	18	ug/l	Daily [8]	Grab

<u>Parameter</u>	<u>Quality or Concentration</u>			<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>	<u>Units</u>		
pH	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] The permittee may discharge non-contact cooling waters from blast furnace and sintering operations only through Outfalls 015, 018, 019, and 035.
- [2] See Part III.A. of the permit for the Temperature Requirements.
- [3] Cyanide shall be measured and reported as Total Cyanide. See Part I.Q. of the permit for additional requirements.
- [4] The permittee shall measure and report identified metals as total recoverable metals.
- [5] See Part I.R. for Mercury Monitoring Requirements.

- [6] The permittee has up to a five (5) schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 25.9 lbs/day.
- [8] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [9] See the Fact Sheet for the water treatment additives in use at Outfall 019 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 019, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [10] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [11] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [12] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [13] See Part I.G. of the permit for Pollutant Minimization Requirements.

11. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge No. 1 BOP Shop non-contact cooling water, No.1 continuous caster non-contact cooling water, steam condensate, and storm water through Outfall 020 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][9][11]
Outfall 020

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2]	-----	-----	-----	Report	Report	mg/l	1 X Weekly	Grab
Temperature [3]	-----	-----	-----	-----	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Lead [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Zinc [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Mercury [4][5][6]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [10]	Grab
Final	0.0007	0.002	lbs/day	1.3	3.2	ng/l	Bi-Monthly [10]	Grab
Total Residual Chlorine [12]	4.3	9.7 [7]	lbs/day	8	18	ug/l	Daily [8]	Grab

Parameter	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum			
pH	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] There shall be no discharge of any steelmaking area process wastewater (steelmaking, vacuum degassing and continuous casting) or other process wastewaters from Outfall 020.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [3] See Part III.A. of the permit for the Temperature Requirements.
- [4] The permittee shall measure and report identified metals as total recoverable metals.
- [5] See Part I.R. for Mercury Monitoring Requirements.
- [6] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

- [7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 32.2 lbs/day.
- [8] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [9] See the Fact Sheet for the water treatment additives in use at Outfall 020 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 020, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [10] Bimonthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [11] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [12] See Part I.G. of the permit for Pollutant Minimization Requirements.

12. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge air compressor cooling water, air conditioning condensates, steam condensate, and storm water runoff through Outfall 021 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][4][5]
Outfall 021

Table 1								
<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	-----	-----	-----	-----	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [6]	0.04	0.09 [2]	lbs/day	8	18	ug/l	Daily [3]	Grab

Table 2								
<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	-	-	-	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] There shall be no discharge of process wastewaters through this outfall.
- [2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.3 lbs/day.
- [3] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [4] See the Fact Sheet for the water treatment additives in use at Outfall 021 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 021, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [5] See Part I.B. of the permit for the Narrative Water Quality Standards.

[6] See Part I.G. of the permit for Pollutant Minimization Requirements.

13. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge only storm water runoff through Outfall 023 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
Outfall 023

<u>Parameter</u>	Quantity or Loading			Table 1 Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units		
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	-----	-----	-----	-----	Report	mg/l	1 X Monthly	Grab

<u>Parameter</u>	Table 2 Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum	Units		
pH	Report	Report	s.u.	1 X Monthly	Grab

- [1] There shall be no discharge of process wastewaters through this outfall.
- [2] See the Fact Sheet for the water treatment additives in use at Outfall 023 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 023, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [3] See Part I.B. of the permit for the Narrative Water Quality Standards.

14. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge air conditioning and steam condensates, and storm water runoff through Outfall 026 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2]
Outfall 026 (Inactive)

<u>Parameter</u>	Quantity or Loading			Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units		
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	-----	-----	-----	-----	Report	mg/l	1 X Monthly	Grab

<u>Parameter</u>	Quality or Concentration			Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum	Units		
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] US Steel shall notify the Compliance Evaluation Section of the Office of Water Quality (OWQ) at least 30 days prior to re-activation of this outfall.

[2] See Part I.B. of the permit for the Narrative Water Quality Standards.

15. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge treated wastewater from steelmaking, vacuum degassing, continuous casting and hot forming process wastewaters, storm water runoff, non-contact cooling water and direct contact slab cooling water through Outfalls 028 and 030 to the Grand Calumet River. The permittee is authorized to discharge from Outfalls 028 & 030 (combined total) and reported as Outfall 600 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][9][11]
028/030 (Outfall 600)

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	2,038	5,933	lbs/day	Report	Report	mg/l	5 X Weekly	24-Hr. Comp.
Oil & Grease [4]	952	2,467	lbs/day	Report	Report	mg/l	5 X Weekly	3 Grabs/ 24 Hrs
Lead [3]	6.34	14.73	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Mercury [3][5]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [8]	Grab
Final [10]	0.00035	0.0009	lbs/day	1.3	3.2	ng/l	Bi-Monthly [8]	Grab
Fluoride	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Total Residual Chlorine [12]	2.1	4.8 [6]	lbs/day	8	18	ug/l	Daily [7]	Grab
Temperature [2]	-----	-----	-----	-----	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Whole Effluent Toxicity			See Part I.L., Biomonitoring Requirements					

Parameter	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum			
pH	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] The permittee shall measure on the same day and at the same time and report Outfalls 028 and 030 separately and also report as a combined total (Outfall 600).
- [2] See Part III.A. of the permit for the Temperature Requirements.
- [3] The permittee shall measure and report identified metals as total recoverable metals.
- [4] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

- [5] See Part I.R. for Mercury Monitoring Requirements.
- [6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 16.0 lbs/day.
- [7] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [8] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.
- [9] See the Fact Sheet for the water treatment additives in use at Outfall 028/030 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 028/030, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [10] The permittee has up to a five (5) schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [11] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [12] See Part I.G. of the permit for Pollutant Minimization Requirements.

16. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge BOP (1-BOP and Q-BOP) treatment, vacuum degasser and continuous casting (1-Caster, 2-Caster A/B line, and 2-Caster C Line) treatment wastewater through Outfall 603 to the Grand Calumet River via Outfall 030. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1]

Internal Outfall 603

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Lead [2]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly[3]	24-Hr. Comp.
Zinc [2]	13.1	39.1	lbs/day	Report	Report	mg/l	2 X Weekly[3]	24-Hr. Comp.
pH	-----	-----	-----	-----	Report	s.u.	1 X Weekly	Grab

- [1] Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Outfall 030. Separate samples and flow measurements shall be taken at the discharge of the No.1 Continuous Caster Scale Pit, the filtered blowdown from the No. 2 Continuous Caster, and the discharge of the No.1 and No.1A BOP Thickeners. The mass loadings from each monitoring point shall be calculated and added together to determine the daily and monthly average mass discharges.
- [2] The permittee shall measure and report identified metals as total recoverable metals.
- [3] Sampling at 603 for lead and zinc shall occur on the same days and at approximately at the same times as samples taken at Outfalls 028 and 030.

17. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge miscellaneous non-contact cooling water, steam condensate, freeze protection water, and storm water through Outfall 032 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [3][4]
Outfall 032

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Table 1</u> <u>Quality or Concentration</u>				<u>Monitoring</u> <u>Measurement</u> <u>Frequency</u>	<u>Requirements</u> <u>Sample</u> <u>Type</u>
	<u>Monthly</u> <u>Average</u>	<u>Daily</u> <u>Maximum</u>	<u>Units</u>	<u>Monthly</u> <u>Average</u>	<u>Daily</u> <u>Maximum</u>	<u>Units</u>		
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	-----	-----	-----	-----	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [5]	0.02	0.045 [1]	lbs/day	8	18	ug/l	Daily [2]	Grab

<u>Parameter</u>	<u>Table 2</u> <u>Quality or Concentration</u>			<u>Monitoring</u> <u>Measurement</u> <u>Frequency</u>	<u>Requirements</u> <u>Sample</u> <u>Type</u>
	<u>Daily</u> <u>Minimum</u>	<u>Daily</u> <u>Maximum</u>	<u>Units</u>		
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.15 lbs/day.
- [2] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [3] See the Fact Sheet for the water treatment additives in use at Outfall 032 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 032, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [4] See Part I.B. of the permit for the Narrative Water Quality Standards.

[5] See Part I.G. of the permit for Pollutant Minimization Requirements.

18. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from sheet and tin mills and the atmospheric gas plant, non-process wastewater from EJ & E Railroad, steam condensate, and storm water through Outfall 033 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][5][6]
Outfall 033

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease [2]	-----	-----	-----	-----	Report	mg/l	1 X Monthly	Grab
Phenols (4AAP)	-----	Report	lbs/day	-----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Total Residual Chlorine [7]	0.01	0.03 [3]	lbs/day	8	18	ug/l	Daily [4]	Grab

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] There shall be no discharge of process wastewaters through Outfall 033.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [3] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.1 lbs/day.
- [4] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [5] See the Fact Sheet for the water treatment additives in use at Outfall 033 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 033, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or

acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

- [6] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [7] See Part I.G. of the permit for Pollutant Minimization Requirements.

19. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge treated wastewater from Internal Outfalls, 604, 605, and 606, non-contact cooling water from the finishing operations, non-contact cooling water from the ferrous chloride recycling discharge, steam condensate, and storm water runoff through Outfall 034 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][6][10][13]
Outfall 034

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
CBOD ₅ [4]								
Summer	1,334	2,669	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Winter	4,537	9,074	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease [5]	1,850	4,000	lbs/day	Report	Report	mg/l	5 X Weekly	3 Grabs/ 24 Hrs
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [8]	2.52	5.85	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Zinc [8]	34.98	74.68	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Mercury [8][11][12]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [14]	Grab
Final	0.0003	0.0008	lbs/day	1.3	3.2	ng/l	Bi-Monthly [14]	Grab
Phenols (4AAP)	26.00	39.00	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Total Residual Chlorine	1.9	4.3 [9]	lbs/day	8	18	ug/l	See Footnote [7]	Grab
Temperature [3]	-----	-----			Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Whole Effluent Toxicity				See Part I.L., Biomonitoring Requirements				

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	1X Daily	Grab
Dissolved Oxygen	5.0		mg/l	1 X Weekly	Grab

- [1] The permittee shall only discharge the effluents from Internal Outfalls 604, 605, and 606 through Outfall 034.
- [2] The permittee shall monitor Outfalls 034, 604, 605, and 606 on the same days.
- [3] See Part III.A. of the permit for the Temperature Requirements.
- [4] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 thorough June 30.

- [5] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [6] The following wastewater treatment systems may be added to reduce the CBOD₅ on a continuous year-round basis:
 - (i) Internal Outfall 604- Chlorination (sodium hypochlorite) treatment.
 - (ii) Internal Outfall 605- Chlorination (sodium hypochlorite) treatment.
 - (iii) Outfall 034 – Sodium Bisulfite addition (de-chlorination).
- [7] Continuous chlorination at the above outfalls is permitted on a year-round basis. The wastewater shall be de-chlorinated prior to discharge from Outfall 034. Monitoring for TRC shall be daily during zebra mussel intake chlorination, and 2 X Weekly during continuous chlorination treatment when the intake is not being treated for zebra mussels. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [8] The permittee shall measure and report identified metals as total recoverable metals.
- [9] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 14.3 lbs/day.
- [10] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [11] See Part I.R. for Mercury Monitoring Requirements.
- [12] The permittee has up to a five (5) schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.
- [13] See the Fact Sheet for the water treatment additives in use at Outfall 034 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 034, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

- [14] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

20. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge treated process wastewaters from cold rolling, acid pickling, alkaline cleaning, hot coating, electroplating, and hot strip mill oil cellars through Internal Outfall 604 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2]
Outfall 604

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring	Requirements
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum		Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	3,269	7,166	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	Report	Report	lbs/day	Report	Report	mg/l	5 X Weekly	3 Grabs/ 24 Hrs.
Total Recoverable Chromium[4]	48.5	78.5	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [4]	20.2	43.5	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Cyanide [3]	18.4	34.0	lbs/day	Report	Report	mg/l	1 X Quarterly[7]	See Part I.Q.
Cadmium [4]	7.4	19.6	lbs/day	Report	Report	mg/l	1 X Quarterly[7]	24-Hr. Comp.
Hexavalent Chromium [6]	0.16	0.46	lbs/day	Report	Report	mg/l	1 X Quarterly[7]	Grab
Copper [4]	59.7	95.9	lbs/day	Report	Report	mg/l	1 X Quarterly[7]	24-Hr. Comp.
Nickel [4]	67.5	112.9	lbs/day	Report	Report	mg/l	1 X Quarterly[7]	24-Hr. Comp.
Silver [4]	6.8	12.2	lbs/day	Report	Report	mg/l	1 X Quarterly[7]	24-Hr. Comp.
TTO [5]	-----	60.4	lbs/day	-----	-----	-----	1 X Monthly	24-Hr. Comp.
Naphthalene	-----	1.7	lbs/day	-----	Report	mg/l	2 X Weekly	24-Hr. Comp.
Tetrachloroethylene	-----	2.5	lbs/day	-----	Report	mg/l	2 X Weekly	2 grabs/ 24 Hrs.

- [1] Bypasses of process wastewaters from the above sources around the Terminal Treatment Plant are permitted only in accordance with Section B.2., Part II of this permit. The permittee shall not use cyanide plating solutions in any metal finishing operations, unless expressly authorized by a modification of this permit.
- [2] Samples taken in accordance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Outfall 034.
- [3] Cyanide shall be measured and reported as Total Cyanide. See Part I.Q. for additional requirements.
- [4] The permittee shall measure and report the identified metals a total recoverable metals.
- [5] The limitation for TTO (Total Toxic Organics) applies to the summation of all quantifiable values greater than 0.01 mg/l for all toxic organics listed under 40 CFR 433.11(e) which are reasonably expected to be present. This is a federal effluent guideline based limitation and is not an authorization to discharge toxic

organic compounds at levels which cause or may cause water quality violations. The discharge of organic compounds at level which cause or may cause water quality violations is prohibited. The intent of this limitation is to assure that any solvent or other products in use at the plant, which contain any of the listed toxic organic compounds, are disposed of properly, and not dumped, spilled, discharged or leaked.

Certification Statement

In lieu of monthly monitoring for TTO, the party responsible for signing the monthly discharge monitoring report (DMR) forms may make the following statement, as part of the DMR: "Based on my inquiry of the persons directly responsible for managing compliance with the permit limitations for TTO, I certify that, to the best of my knowledge and belief, no disposal of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the Toxic Organic Pollutant Management Plan submitted to the Compliance Evaluation Section of the Office of Water Quality, as required by this permit." The Certification Statement may not be used until completion of the Toxic Organic Pollutant Management Plan required by Part I.N. of this permit.

If the above mentioned responsible party is unable to make the above Certification Statement because of discharge or spills of any TTO compounds, the Permittee is required to notify IDEM in accordance with Part II.C.3 of this permit.

- [6] Hexavalent Chromium shall be measured and reported as dissolved metal. The Hexavalent Chromium sample type shall be grab method. The maximum holding time for a Hexavalent Chromium sample is 24 hours (40 CFR 136.6 Table IB). Therefore, the grab sample must be analyzed within 24 hours.
- [7] Samples shall be taken once at any time during each of the four annual quarters:
- (A) January-February-March;
 - (B) April-May-June;
 - (C) July-August-September; and
 - (D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

21. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge treated process wastewaters from the 84" Hot Strip Mill through Internal Outfall 605 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1]
Outfall 605

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	725	2,175	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	----	1,450	lbs/day	-----	Report	mg/l	5 X Weekly	3 Grab/ 24-Hrs

- [1] The permittee may discharge process wastewater from the 84" Hot Strip Mill only through Outfall 605, and oil cellar discharges through Outfall 604 (Terminal Treatment Plant). Non-contact cooling water from the 84" Hot Strip Mill shall only be discharged through Outfall 039.

22. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from steel finishing operations, miscellaneous non-process wastewater, storm water runoff, and ferrous chloride recycling discharge through Internal Outfall 606 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
Outfall 606

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>		
Flow	Report	Report	MGD	-	-	-	Daily	24-Hr. Total
Oil & Grease [3]	----	----	----	----	Report	mg/l	1 X Weekly	Grab
Total Chromium	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Zinc [4]	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Lead [4]	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Phenols (4AAP)	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp.

- [1] The permittee may discharge non-process wastewaters associated with steel finishing operations via the 84" X 91" sewer to the final oil skimming basin at Outfall 034 for treatment prior to discharge through Outfall 034.
- [2] The permittee shall monitor Outfall 606 for oil and grease, total chromium, lead, zinc, and phenols (4AAP) on the same days that monitoring for Outfalls 034, 604 and 605 occurs.
- [3] Corrective action will be initiated after an investigation of any reported discharges of process wastewaters discharging from Outfall 606.
- [4] The permittee shall measure and report the identified metals as total recoverable metals.

23. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge north blast furnace non-contact cooling water, No. 5 electric power station non-contact cooling water, Lakeside Energy Co-Generation Plant non-contact cooling water, steam condensate, and storm water runoff through Outfall 035 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][6][7][10][11]
Outfall 035

Table 1								
<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2]	-----	-----	-----	-----	Report	mg/l	1 X Weekly	Grab
Temperature [3]								
Discharge	-----	-----	-----	-----	Report	°F	1 X Hour	Continuous
Intake [4]	-----	-----	-----	-----	Report	°F	1 X Hour	Continuous
Thermal Discharge		See Footnote [5] for Effluent Limitations				BTU/Hr	Daily	Continuous
Total Residual Chlorine [9][12] 11.8		26.5 [8]	lbs/day	8	18	ug/l	Daily	Grab

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring</u> <u>Measurement</u> <u>Frequency</u>	<u>Requirements</u> <u>Sample</u> <u>Type</u>
	<u>Daily</u> <u>Minimum</u>	<u>Daily</u> <u>Maximum</u>			
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] The permittee may discharge non-contact cooling waters from blast furnace and sintering operations only through Outfalls 015, 018, 019, and 035.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [3] See Part III.A.2. for additional temperature requirements.
- [4] The permittee shall continuously monitor intake temperature at the No. 2 Pump Station.
- [5] The effluent limitation is 1.211 billion BTU/hour as a maximum daily average. Monitoring shall include flow and intake and outlet temperatures as measured across the condensers on the continuous basis. The daily average BTU's/hour shall be calculated as follows: the BTU's/hour shall be determined once each hour and those volumes shall be averaged over a 24 our period for each day.

- [6] There shall be no discharge of blast furnace or sinter plant process wastewaters or process wastewater residuals through Outfall 035.
- [7] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.
- [8] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 88.3 lbs/day.
- [9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [10] See the Fact Sheet for the water treatment additives in use at Outfall 035 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 035, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [11] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [12] See Part I.G. of the permit for Pollutant Minimization Requirements.

24. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from the 5-Stand Cold Reduction Mill, North Sheet Mill Annealing, the No. 6 and 8 Galvanized lines, air compressor non-contact cooling water, steam condensate, and storm water runoff through Outfall 037 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][7][8][9]
Outfall 037

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
Flow								
Interim	Report	Report	MGD	-----	-----	----	1 X Weekly	Estimate
Final [6]	Report	Report	MGD	-	-	-	Daily	Continuous
Temperature								
Discharge								
Interim	-----	-----	-----	-----	Report	°F	1 X Week	Grab
Final [6]	-----	-----	-----	-----	Report	°F	1 X Hour	Continuous
Intake	-----	-----	-----	-----	Report	°F	1 X Hour	Continuous
Thermal Discharge [6]					Report	BTU/Hr	Daily	Continuous
Oil & Grease [2]	-----	-----	-----	-----	Report	mg/l	1 X Weekly	Grab
Zinc [3]	-----	Report	lbs/day	-----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Phenols (4AAP)	-----	Report	lbs/day	-----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Total Residual Chlorine [10]	0.2	0.45 [4]	lbs/day	8	18	ug/l	Daily [5]	Grab

Parameter	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum			
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] There shall be no discharge of process wastewater through Outfall 037.
- [2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.
- [3] The permittee shall measure and report the identified metals as total recoverable metals.
- [4] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 1.5 lbs/day.
- [5] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been

completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

- [6] See Part III.A.2. and A.3. for additional temperature requirements and compliance schedule for continuous monitoring requirements for temperature and flow.
- [7] See the Fact Sheet for the water treatment additives in use at Outfall 037 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 037, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [8] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.
- [9] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [10] See Part I.G. of the permit for Pollutant Minimization Requirements.

25. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from the 84" Hot Strip Mill, non-contact cooling water from the reheat furnaces, emergency overflows from the 84" Hot Strip Mill roughing mill scale pit, steam condensate, non-contact cooling water from a cooling tower and storm water through Outfall 039 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][5][6][7]
Outfall 039

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>			<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>		
Flow								
Interim	Report	Report	MGD	-----	-----	----	1 X Weekly	Estimate
Final [4]	Report	Report	MGD	-----	-----	----	Daily	Continuous
Temperature								
Discharge								
Interim	-----	-----	-----	-----	Report	°F	1 X Week	Grab
Final [4]	-----	-----	-----	-----	Report	°F	1 X Hour	Continuous
Intake [4]	-----	-----	-----	-----	Report	°F	1 X Hour	Continuous
Thermal Discharge [4]					Report	BTU/Hr	Daily	Continuous
Oil & Grease	-----	-----	-----	-----	Report	mg/l	1 X Weekly	Grab
Total Residual Chlorine [8]	3.7	8.3 [2]	lbs/day	8	18	ug/l	Daily [3]	Grab

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] There shall be no discharge of process wastewater through Outfall 039, except as provided for by Part II.B.1., 2., and 3.
- [2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 27.5 lbs/day.
- [3] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [4] See Part III.A.2. and A.3. for additional temperature requirements and compliance schedule for continuous monitoring requirements for temperature and flow.

- [5] See the Fact Sheet for the water treatment additives in use at Outfall 039 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 039, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [6] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.
- [7] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [8] See Part I.G. of the permit for Pollutant Minimization Requirements.

26. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from the No. 1 Electro-Galvanizing Line, steam condensate, water intake filter backwash, boiler blowdown and storm water through Outfall 040 to Stockton Pond. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Stockton Pond. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][4][8]
Outfall 040

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>		
Flow	Report	Report	MGD	-	-	-	1 X Weekly	24 Hr. Total
Temperature [3]	-----	-----	-----	-----	Report	°F	1 X Monthly	Grab
Oil & Grease	-----	-----	-----	-----	Report	mg/l	1 X Monthly	Grab
Zinc [2]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Final [3]	0.14	0.3	lbs/day	0.084	0.170	mg/l	1 X Weekly	24-Hr. Comp.
Copper [2]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Final [3]	0.022	0.035	lbs/day	0.013	0.021	mg/l	1 X Weekly	24-Hr. Comp.
Ammonia								
Summer [5]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Final [3]	0.82	1.35	lbs/day	0.49	0.81	mg/l	1 X Monthly	24-Hr. Comp.
Winter [5]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Final [3]	0.37	0.6	lbs/day	0.22	0.36	mg/l	1 X Weekly	24-Hr. Comp.
Total Residual Chlorine [9]	0.01	0.03 [6]	lbs/day	8	18	ug/l	Daily [7]	Grab

Table 2

<u>Parameter</u>	<u>Quality or Concentration</u>			<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>	<u>Units</u>		
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] There shall be no discharge of process wastewaters from steel finishing or metal finishing operations through Outfall 040.
- [2] The permittee shall measure and report the identified metals a total recoverable metals.
- [3] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitations. Interim limitations shall apply until the final limits take effect.

- [4] See the Fact Sheet for the water treatment additives in use at Outfall 040 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 040, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [5] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.
- [6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.1 lbs/day.
- [7] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has been completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [8] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [9] See Part I.G. of the permit for Pollutant Minimization Requirements.

27. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge non-contact cooling water from the ore yard rectifier system through Outfall(s) 041A and 041B to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the boat slip at Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2]
Outfall 041A & 041B

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	-----	-----	-----	Report	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [4][5]	0.006	0.013	lbs/day	8	18	ug/l	1 X Monthly	Grab
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	Grab

Table 2

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	1 X Monthly	Grab

- [1] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [2] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.
- [3] The permittee shall measure and report the identified metals as total recoverable metals.
- [4] See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.
- [5] See Part I.G. of the permit for Pollutant Minimization Requirements.

28. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge water intake screen backwash through Outfalls BW-1, BW-2, BW-3, BW-4, and BW-5 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the boat slip at Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][4]

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	-----	Report	MGD	-----	-----	-----	Quarterly [3]	Estimate

- [1] Discharge of water intake screen backwash is authorized from the following Lake Michigan water intakes:

BW-1 – No. 1 service water pumping station.
 BW-2 – No. 2 service water pumping station.
 BW-3 – No. 3 service water pumping station.
 BW-4 – No. 4 service water pumping station.
 BW-5 – Lakeside service water pumping station.

- [2] There shall be no discharge of process wastewaters from Outfalls BW-1, BW-2, BW-3, BW-4, and BW-5.

- [3] Samples shall be taken once at any time during each of the four annual quarters:

- (A) January-February-March;
- (B) April-May-June;
- (C) July-August-September; and
- (D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

- [4] See Part I.B. of the permit for the Narrative Water Quality Standards.

B. NARRATIVE WATER QUALITY STANDARDS

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

1. including the mixing zone, to contain substances, materials, floating debris, oil, scum, or other pollutants:
 - a. that will settle to form putrescent or otherwise objectionable deposits;
 - b. that are in amounts sufficient to be unsightly or deleterious;
 - c. that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
 - d. which are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;
 - e. which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.
2. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge.

2. Discharge Monitoring Reports

- a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0).

- b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean. When a daily discharge value is below the LOQ, a value of zero (0) shall be used for that value in the calculation to determine the monthly average unless otherwise specified or approved by the Commissioner.
- c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.
- d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.
- e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.
- f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous month which shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

3. Definitions

a. Monthly Average

- (1) Mass Basis - The "monthly average" discharge means the total mass discharge during a calendar month divided by the number of days in the month that the production or commercial facility was discharging. Where less than daily

samples is required by this permit, the monthly average discharge shall be determined by the summation of the measured daily mass discharges divided by the number of days during the calendar month when the measurements were made.

- (2) Concentration Basis - The "monthly average" concentration means the arithmetic average of all daily determinations of concentration made during a calendar month. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Discharge"

- (1) Mass Basis - The "daily discharge" means the total mass discharge by weight during any calendar day.
- (2) Concentration Basis - The "daily discharge" means the average concentration over the calendar day or any twenty-four (24) hour period that reasonably represents the calendar day for the purposes of sampling.

c. "Daily Maximum"

- (1) Mass Basis - The "daily maximum" means the maximum daily discharge mass value for any calendar day.
- (2) Concentration Basis - The "daily maximum" means the maximum daily discharge value for any calendar day.
- (3) Temperature Basis - The "daily maximum" means the highest temperature value measured for any calendar day.

d. A 24-hour composite sample consists of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow-proportioned composite sample may be obtained by:

- (1) recording the discharge flow rate at the time each individual sample is taken,

- (2) adding together the discharge flow rates recorded from each individual sampling time to formulate the "total flow" value,
 - (3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,
 - (4) then multiply the volume of the total composite sample by each individual sample's percentage to determine the volume of that individual sample which will be included in the total composite sample.
- e. Concentration -The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).
- f. The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.
- g. The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.
- h. "Limit of Detection" or "LOD" means a measurement of the concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the method detection level or MDL.
- i. "Limit of Quantitation" or "LOQ" means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also sometimes called limit quantification or quantification level.
- j. "Method Detection Level" or "MDL" means the minimum concentration of an analyte (substance) that can be measured and

reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

4. Test Procedure

The analytical and sampling methods used shall conform to the current version of 40 CFR 136. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency.

- a. Standard Methods for the Examination of Water and Wastewater 18th, 19th, or 20th Editions, 1992, 1995, or 1998, American Public Health Association, Washington, D.C. 20005.
- b. A.S.T.M. Standards, Parts 23, Water; Atmosphere Analysis 1972 American Society for Testing and Materials, Philadelphia, PA 19103.
- c. Methods for Chemical Analysis of Water and Wastes June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.
- d. The following analytical methods and limits of detection and limits of quantitation shall be used:

Parameter [7]	Method [1]	Concentration (in ug/l)	
		LOD	(LOQ or ML)
Ammonia	350.1	10	32.0
	350.2 (colometric)	50	160
	350.2 (electrode)	30	95
	350.3	30	95
Benzene	602	0.2	0.64
	624	4.4	14

	1624	3.1	10
Benzo(a)pyrene	610 HPLC [4]	0.023	0.073
	610-GC/MS [4]	1.25 [5]	3.98
Chloride	325.1	1000	3200
	325.2	1000	3200
	300.0		
Copper	220.2	1	3.2
Cyanide, Total	335.3 / 4500-CN-B,C,E [2] (colorimetric)	1	3.2
Cyanide, Free	4500-CN-I [2]	1	3.2
Fluoride	340.1	100	320
	340.2	100	320
	340.3	50	160
	300.0		
Iron	236.2	1	3.2
	200.7	7	22
Lead	239.2	1	3.2
Mercury [6]	1631	0.0002	0.0005
Naphthalene	610 (HPLC)	1.8	5.8
	625	1.6	5.1
	1625	3.1	10
Phenols	420.1	5	16
	420.2	2	6.4
	420.3	2	6.4
Selenium	270.2	1 [3]	3.5 [3]
	270.3	2	6.4
Sulfate	375.1	3000	9500
	375.4	1000	3200
	300.0		
Tetrachloroethylene	601	0.03	0.095
Total Suspended Solids	160.2	1258	4000
Zinc	289.1	5	16
	289.2	0.1	0.3
	200.7	2	6.4

[1] Unless otherwise specified, the methods listed are the EPA Methods referenced in 40CFR 136.

[2] American Public Health Association. 1992. Standard Methods for the Examination of Water and Wastewater. 18th Edition. Public Health Assoc., 1015 15th Street NW, Washington DC 20005.

[3] LOD/LOQ established by site-specific study 07/18/2000.

[4] Method 610-GC/MS shall be used at Outfall 501.

- [5] MDL and resulting LOQ apply to Outfall 501.
- [6] Utilize the most currently approved revision.
- [7] Mass for each corresponding LOD and LOQ shall be determined using the corresponding concentration provided in the above table multiplied by 8.345 multiplied by the corresponding outfalls flow in MGD. For each outfall use the following in Million Gallons per Day (MGD): Outfall 005 = 61.07; Outfall 010=1.42; Outfall 015=1.65; Outfall 017= 0.064; Outfall 018= 49.85; Outfall 019= 51.75; Outfall 020= 64.38; Outfall 021= 0.6; Outfall 023= 0.1; Outfall 028/030= 31.9; Outfall 032= 0.2; Outfall 034= 28.5; Outfall 035= 176.3; Outfall 036= 27.0; Outfall 037= 3.0; Outfall 039= 55.0; Outfall 040= 0.2; Outfall 041=0.043.

The permittee may determine a case-specific Limit of Detection (LOD) or Limit of Quantitation (LOQ) using the analytical method specified above, or any other test method which is approved by IDEM prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the IDEM.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The person(s) who performed the sampling or measurements;
- c. The dates the analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of all required analyses and measurements.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in

this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

- a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or
- b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for each parameter at each outfall listed in Table A below in accordance with the following schedule:

Table A

<u>Outfall</u>	<u>Parameter</u>
005	Benzo(a)pyrene Free Cyanide (Season 2) WETT _(chronic)
010	Benzo(a)pyrene
018	Copper
034	WETT _(chronic)
040	Zinc, Copper, and Ammonia

- a. The permittee shall submit a written progress report to the Compliance Evaluation Section of the Office of Water Quality (OWQ) twelve (12) months from the effective date of this permit. The progress report shall include a description of the method(s) selected for meeting the newly imposed limitations for the parameters listed in Table A above, in addition to any other relevant information. The progress report shall also include a specific time line specifying when each of the steps will be taken.

The new effluent limits for each parameter listed above are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as the newly imposed effluent limits for a parameter can be met. Upon receipt of such notification by OWQ, the final limits listed in the corresponding discharge limitations Table for each Outfall above will become effective, but no later than sixty (60) months from the effective date of this permit. Monitoring and reporting of the effluent for these parameters is required during the interim period.

- b. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than twenty-four (24) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
- c. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than thirty-six (36) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
- d. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than forty-eight (48) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
- e. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.
- f. The permittee shall comply with the final effluent limitations for each parameter at each Outfall listed in Table A above no later than sixty (60) months from the effective date of this permit.

2. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Evaluation Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.

E. SCHEDULE OF COMPLIANCE - Mercury

1. The permittee shall achieve compliance with the effluent limitations specified for Mercury at Outfalls 005, 010, 015, 018, 019, 020, 028/030, and 034 in accordance with the following schedule:
 - a. The permittee shall submit a written progress report to the Compliance Evaluation Section of the Office of Water Quality (OWQ) twelve (12) months from the effective date of this permit. The progress report shall include a description of the method(s) selected for meeting the newly imposed limitation for Mercury, in addition to any other relevant information. The progress report shall also include a specific time line specifying when each of the steps will be taken. The new effluent limits for Mercury are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as the newly imposed effluent limits for Mercury can be met. Upon receipt of such notification by OWQ, the final limits for Mercury will become effective, but no later than sixty (60) months from the effective date of this permit. Monitoring and reporting of the effluent for this parameter is required during the interim period.
 - b. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than twenty-four (24) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
 - c. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than thirty-six (36) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.

- d. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than forty-eight (48) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
 - e. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.
 - f. The permittee shall comply with the final effluent limitations for Mercury no later than sixty (60) months from the effective date of this permit.
2. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Evaluation Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.
- F. This paragraph is reserved and is intentionally left Blank.
- G. POLLUTION MINIMIZATION PROGRAM

This permit contains water quality-based effluent limits for chlorine which are less than the listed limitation of quantitation (LOQ) value, the permittee is required to develop and conduct a pollutant minimization program (PMP) for chlorine. A PMP has already been conducted for total residual chlorine at Outfall 034, therefore, a new PMP at Outfall 034 will not be required for chlorine. One basic PMP for TRC can be submitted for all affected Outfalls. If the PMP submitted previously for Outfall 034 incorporates the PMP requirements that will be in essence the same as for the other US Steel outfalls covered in this permit then all USS will need to do to meet this requirement is to re-submit that PMP along with a letter to that effect and separate PMP's for the remaining outfalls will not be required.

The laboratory US Steels utilizes to measure selenium has been capable of measuring down to a level that is currently below the water quality based effluent limit. As long as the laboratory is capable of demonstrating the case-specific LOD of 1.0 ug/l using Test Method 270.2, the pollutant minimization program

remains suspended for Selenium at Outfall 005. If it is determined that the case-specific LOD is invalid then the original PMP requirements shall be re-implemented for Selenium at Outfall 005.

1. The goal of the pollutant minimization program shall be to maintain the effluent at or below the WQBEL. The pollutant minimization program shall include, but is not limited to, the following:
 - a. Submit a control strategy designed to proceed toward the goal within 180 days of the effective date of this permit.
 - b. Implementation appropriate cost-effective control measures, consistent with the control strategy within 365 days of the effective date of this permit.
 - c. Monitor as necessary to record the progress toward the goal. Potential sources of the pollutant shall be monitored on a semi-annual basis. Quarterly monitoring of the influent of the wastewater treatment system is also required. The permittee may request a reduction in this monitoring requirement after four quarters of monitoring data.
 - d. Submit an annual status to the Commissioner at the address listed in Part I.C.3.g. to the attention of the Office of Water Quality, Compliance Evaluation Section, by January 31 of each year that includes the following information:
 - (i) All minimization program monitoring results for the previous year.
 - (ii) A list of potential sources of the pollutant.
 - (iii) A summary of all actions taken to reduce or eliminate the identified sources of the pollutant.
 - e. A pollution minimization program may include the submittal of pollution prevention strategies that use changes in production process technology, materials, processes, operations, or procedures to reduce or eliminate the source of the pollutant.
2. No pollution minimization program is required if the permittee demonstrates that the discharge of a pollutant with a WQBEL below the LOQ is reasonably expected to be in compliance with the WQBEL at the point of discharge into the receiving water. This demonstration may include, but is not limited to, the following:

- a. Treatment information, including information derived from modeling the destruction or removal of the pollutant in the treatment process.
 - b. Mass balance information.
 - c. Fish tissue studies or other biological studies.
3. In determining appropriate cost-effective control measures to be implemented in a pollution minimization program, the following factors may be considered:
 - a. Significance of sources.
 - b. Economic and technical feasibility.
 - c. Treatability.

H. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
 - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. controls any pollutant not limited in the permit.
2. to incorporate any of the reopening clause provisions cited at 327 IAC 5-2-16.
3. to include limitations for specific toxicants if the results of the biomonitoring and/or the TRE study indicate that such limitations are necessary to meet Indiana Water Quality Standards.
4. After reviewing the temperature monitoring data as required in Part III of the permit, the IDEM reserves the right to reopen the permit and, after public notice and opportunity for hearing, to establish more appropriate temperature requirements.

5. to include a case-specific Limit of Detection (LOD) and/or Limit of Quantitation (LOQ). The permittee must demonstrate that such action is warranted in accordance with the procedures specified under Appendix B, 40 CFR Part 136, using the most sensitive analytical methods approved by EPA under 40 CFR Part 136, or approved by the Commissioner.
6. To include free cyanide limitations based upon final approval of any site specific criterion and/or alternate season(s) by IDEM and US EPA.
7. To revise (such as more or less frequent monitoring) or remove the requirements of the pollutant minimization program (Part I.G.) if supported by information generated as a result of this program.
8. To incorporate conditions necessary to implement US EPA regulations pertaining to cooling water intake structures for existing facilities under Section 316(b) of the Clean Water Act.
9. To include revised limitations for selenium, if US Steel submits an appropriate metal translator study that is approved by IDEM and the study indicates that a change in the metal translator is warranted.
10. To include any additional 316(a) requirements upon finalization of 316(a) protocols by IDEM.
11. To incorporate effluent limitations reflecting the results of a TMDL or a revised wasteload allocation if the IDEM determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.
12. To incorporate alternate limitations established pursuant to IC 13-14-8-9, 327 IAC 5-3-4.1, and 327 IAC 2-1.5 or pursuant to statewide variance rule after such a rule is adopted and becomes effective.
13. To include revisions based upon site specific studies. The permittee shall submit work plans to conduct such site-specific studies before initiation of the study. Workplans must be approved by IDEM and the results of all such studies must be approved by IDEM and possibly EPA. Any necessary rulemaking must be completed before the permit may be modified to reflect the results of the studies.

I. SANITARY LIFT STATION EMERGENCY OVERFLOWS

1. Discharges from sanitary sewer system lift stations or any other portion of the sanitary sewer system are expressly prohibited. Should any discharge

occur, the permittee shall notify the Compliance Evaluation Section within the Office of Water Quality within 24 hours and in writing within five days of the event in accordance with Part II.C.4. The correspondence shall include a description of the duration and cause of the discharge as well as the remedial action taken to eliminate it. The duration and estimated volume of the discharge shall also be reported on the Discharge Monitoring Report. The permittee shall comply with any other relevant provision of its permit in the event of a discharge, including 327 IAC 5-2-8(3).

2. The above stipulations apply to the following sanitary lift stations:

<u>Lift Station</u>	<u>Discharge Point</u>
SOF-6	Outfall 018
SOF-11	Outfall 023
SOF-3	Outfall 032
SOF-51	Outfall 033
SOF-1	Direct to Grand Calumet River
SOF-2	Grand Calumet River via GW-11 Pumping Station
SOF-4	Grand Calumet River via GW-10 Pumping Station
SOF-5	Direct to Lake Michigan
SOF-17	Grand Calumet River via GW-10 Pumping Station

J. STORM WATER MONITORING

1. Beginning on the effective date the permittee shall conduct annual storm water monitoring for the storm water discharge points set out in Paragraph 2, of this section.
2. Storm Water Monitoring Points:

SS-1	DA #8	Tennessee Street (GCR)
SW-01	DA #11	East Side of Slip (LM)
SW-02	DA #11	West Side of Slip (LM)
SW-08	DA #32	Virginia Tunnel Drain (GCR)
SW-10		Tennessee Drain (GCR)
SW-11		Broadway Tunnel Drain (GCR)
Outfall 017	DA #12	Blast Furnace Area (GCR)
SW-06	DA #29	Railroad Lines (LM)
EJ&E (SW-12)	DA #22	Outfall 034 Channel (GCR)
Outfall 134	DA #1, #2, #3	Coal Handling Yard (Mason Basin #5)
Outfall 032	DA #20	Bar Mill and Billet Storage Areas (GCR)
Outfall 033	DA #21	Tin Plate Areas, Atmospheric Gas Plant, Sheet Mill (GCR)

Outfall 040 DA #28 Electrogalvanizing Area (Stockton Pond)

DA – Drainage Area
GCR – Grand Calumet River
LM – Lake Michigan

The monitoring requirements for all points listed above are:

Oil & Grease, Carbonaceous Biochemical Oxygen Demand (CBOD₅), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen, Nitrite Plus Nitrate Nitrogen, Total Phosphorus, E. coli bacteria, and pH.

Additional monitoring requirements for specific outfalls are:

SS1 – Ammonia (as N) and Free Cyanide.
Monitoring Points SW-01, 02, 08, 10, 11, and EJ&E - Ammonia (as N), lead, copper, and zinc.

For all point source discharges of storm water see Part I.B. of the permit for the Narrative Water Quality Standards.

In the event storm water runoff is not discharged from the same locations monitored for in the storm water application (2F) dated March 1999, the permittee shall monitor storm water runoff from a point or points representative of the discrete storm water drainage areas illustrated in the application.

K. STORM WATER POLLUTION PREVENTION PLAN

United States Steel has an existing Storm Water Pollution Prevention Plan (SWP3), the plan requirements below reflect the minimum requirements in a current SWP3. The SWP3 that United States Steel currently has implemented may already contain these minimum requirements, and if so, then this is for reference only. If a component currently required by IDEM is not in the United States Steel SWP3 then United States Steel should revise their plan to conform to the minimum requirements below.

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Storm Water Pollution Prevention Plan (SWP3) for the permitted facility. The plan shall at a minimum include the following:

- a. Identify potential sources of pollution, which may reasonably be

expected to affect the quality of storm water discharges associated with industrial activity from the facility. Storm water associated with industrial activity (defined in 40 CFR 122.26(b)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;

- b. Describe practices and measure to be used in reducing the potential for pollutants to be exposed to storm water; and
- c. Assure compliance with the terms and conditions of this permit.

2. Contents

The plan shall include, at a minimum, the following items:

- a. Pollution Prevention Team -The plan shall list, by position title, the member or members of the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan (SWP3) and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each storm water pollution prevention team member.
- b. Description of Potential Pollutant Sources – The plan shall provide a description of areas at the site exposed to industrial activity and have a reasonable potential for storm water to be exposed to pollutants. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)), which may potentially be significant pollutant sources. As a minimum, the plan shall contain the following:
 - (1) A soils map indicating the types of soils found on the facility property and showing the boundaries of the facility property.
 - (2) A graphical representation, such as an aerial photograph or site layout maps, drawn to an appropriate scale, which contains a legend and compass coordinates, indicating, at a minimum, the following:
 - (A) All on-site storm water drainage and discharge conveyances, which may include pipes, ditches,

swales, and erosion channels, related to a storm water discharge.

- (B) Known adjacent property drainage and discharge conveyances, if directly associated with run-off from the facility.
- (C) All on-site and known adjacent property water bodies, including wetlands and springs.
- (D) An outline of the drainage area for each outfall.
- (E) An outline of the facility property, indicating directional flows, via arrows, of surface drainage patterns.
- (F) An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.
- (G) On-site injection wells, as applicable.
- (H) On-site wells used as potable water sources, as applicable.
- (I) All existing major structural control measures to reduce pollutants in storm water run-off.
- (J) All existing and historical underground or aboveground storage tank locations, as applicable.
- (K) All permanently designated plowed or dumped snow storage locations.
- (L) All loading and unloading areas for solid and liquid bulk materials.
- (M) All existing and historical outdoor storage areas for raw materials, intermediary products, final products, and waste materials.
- (N) All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials, for example, in drums and

totes.

- (O) Outdoor processing areas.
- (P) Dust or particulate generating process areas.
- (Q) Outdoor assigned waste storage or disposal areas.
- (R) Pesticide or herbicide application areas.
- (S) Vehicular access roads.

The mapping of historical locations is only required if the historical locations have a reasonable potential for storm water exposure to historical pollutants.

(3) An area site map that indicates:

- (A) The topographic relief or similar elevations to determine surface drainage patterns;
- (B) The facility boundaries;
- (C) All receiving waters; and
- (D) All known drinking water wells; and

Includes at a minimum, the features in clauses (A), (C), and (D) within a one-fourth (1/4) mile radius beyond the property boundaries of the facility. This map must be to scale and include a legend and compass coordinates.

(4) A narrative description of areas that generate storm water discharges exposed to industrial activity including descriptions for any existing or historical areas listed in subdivision 2.b.(2)(J) through (S) of this Part, and any other areas thought to generate storm water discharges exposed to industrial activity. The narrative descriptions for each identified area must include the following:

- (A) Type and typical quantity of materials present in the area.
- (B) Methods of storage, including presence of any secondary containment measures.

- (C) Any remedial actions undertaken in the area to eliminate pollutant sources or exposure of storm water to those sources. If a corrective action plan was developed, the type of remedial action and plan date shall be referenced.
- (D) Any significant release or spill history dating back a period of three (3) years from the effective date of this permit, in the identified area, for materials spilled outside of secondary containment structures and impervious surfaces in excess of their reportable quantity, including the following:
 - i. The date and type of material released or spilled.
 - ii. The estimated volume released or spilled.
 - iii. A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to storm water. In subsequent permit terms, the history shall date back for a period of five (5) years from the date of the permit renewal application.

- (E) Where the chemicals or materials have the potential to be exposed to storm water discharges, the descriptions for each identified area must include a risk identification analysis of chemicals or materials stored or used within the area. The analysis must include the following:
 - i. Toxicity data of chemicals or materials used within the area, referencing appropriate material safety data sheet information locations.
 - ii. The frequency and typical quantity of listed chemicals or materials to be stored within the area.

- iii. Potential ways in which storm water discharges may be exposed to listed chemicals and materials.
 - iv. The likelihood of the listed chemicals and materials to come into contact with water.
- (5) A narrative description of existing and planned management practices and measures to improve the equality of storm water run-off entering a water of the state. Descriptions must be created for existing or historical areas listed in subdivision 2.b.(2)(J) through (S) and any other areas thought to generate storm water discharges exposed to industrial activity. The description must include the following:
- (A) Any existing or planned structural and nonstructural control practices and measures.
 - (B) Any treatment the storm water receives prior to leaving the facility property or entering a water of the state.
 - (C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.
- (6) If applicable, the specific control practices and measures for potential pollutant source areas must include the following:
- (A) Identification of areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion and identify and implement measures to limit erosion.
 - (B) A plan to cover, or otherwise reduce the potential for pollutants in storm water discharge from deicing salt and sand or other commercial or industrial material storage piles, except for exposure resulting from the addition or removal of materials from the pile. For piles that do not have the potential for polluting storm water run-off, the plan needs to provide the basis for determining no exposure

potential. The plan must be included in the SWP3.

- (C) Storage piles of sand and salt or other commercial or industrial materials must be stored in a manner to reduce the potential for polluted storm water run-off and in accordance with the plan required under clause (B).

- (7) Information or other documentation required under subsection (d) of this plan.
- (8) The results of storm water monitoring. The monitoring data must include completed field data sheets, chain-of-custody forms, and laboratory results. If the monitoring data are not placed into the facility's SWP3, the on-site location for storage of the information must be reference in the SWP3.

c. Measures and Practices – For areas of the facility that generate storm water discharges and have a potential for storm water exposure to pollutants, storm water exposure to pollutants must be minimized. To ensure this reduction, the following practices and measure must be planned and implemented:

- (1) A written preventative maintenance program, including the following:
 - (A) Implementation of good housekeeping practices to ensure the facility will be operated in a clean and orderly manner and that pollutants will not have the potential to be exposed to storm water via vehicle tracking or other means.
 - (B) Maintenance of storm water management measures, for example, catch basins or the cleaning of oil and water separators. All maintenance must be documented and either contained in, or have the on-site record keeping location referenced in, the SWP3.
 - (C) Inspection and testing of facility equipment and systems that are in areas of the facility that generate storm water discharges and have a reasonable potential for storm water exposure to pollutants to ensure appropriate maintenance of such equipment

and systems and to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

- (D) At a minimum, quarterly inspections of the storm water management measures and storm water run-off conveyances. Inspections must be documented and either contained in, or have the on-site record keeping location referenced in, the SWP3.
 - (E) An employee training program to inform personnel at all levels of responsibility that have the potential to engage in industrial activities that impact storm water quality of the components and goals of the SWP3. Training must occur at a minimum annually and should address topics such as spill response, good housekeeping, and material management practices. All employee training sessions, including relevant storm water topics discussed and a roster of attendees, must be documented and either contained in, or have the on-site record keeping location referenced in, the SWP3.
- (2) A written spill response program, including the following:
 - (A) Location, description, and quantity of all response materials and equipment.
 - (B) Response procedures for facility personnel to respond to a release.
 - (C) Contact information for reporting spills, both for facility staff and external emergency response entities.
 - (3) A written non-storm water assessment, including the following:
 - (A) A certification letter stating that storm water discharges entering a water of the state have been evaluated for the presence of illicit discharges and non-storm water contributions.
 - (B) Detergent or solvent-based washing of equipment or vehicles that would allow washwater additives to

enter any storm water only drainage system shall not be allowed at this facility unless appropriately permitted under this NPDES permit.

- (C) All interior maintenance area floor drains with the potential for maintenance fluids or other materials to enter storm water only storm sewers must be either sealed, connected to a sanitary sewer with prior authorization, or appropriately permitted under this NPDES permit. The sealing, sanitary sewer connecting, or permitting of drains under this item must be documented in the written non-storm water assessment program.
 - (D) The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.
- (4) Management of Runoff, including the following:
- (A) The plan shall contain a narrative consideration of the appropriateness of storm water management practices (practices other than those which control the generation or sources of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site.
 - (B) The plan shall provide for the implementation and maintenance of measures that the permittee determines to be reasonable and appropriate. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity shall be considered when determining reasonable and appropriate measures.
 - (C) Examples of appropriate measures or other equivalent measures may include (but are not limited to): vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

d. Comprehensive Site Compliance Evaluation – Qualified personnel shall conduct a comprehensive site compliance evaluation, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

- (1) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measure, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.
- (2) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.K.2.b of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.K.2.c. of this permit shall be revised as appropriate within 4 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.
- (3) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with the above paragraph must be documented and either contained in, or have on-site record keeping location referenced in, the SWP3 at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed

in accordance with the signatory requirements of Part II.C.6 of this permit.

- (4) Where compliance evaluation schedules overlap the inspections required under Part I.K.2.c.(1)(D), the compliance evaluation may be conducted in place of one such inspection.

e. General Requirements – The SWP3 must meet the following general requirements:

- (1) The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgments regarding storm water control/treatment and monitoring, pollutant fate and transport, and drainage planning.
- (2) The plan shall be retained at the facility and be available for review by a representative of the Commissioner upon request.
- (3) The plan must be completed and implemented on or before three hundred sixty-five (365) days from the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.
- (4) The permittee shall amend the plan by either of the following:
 - (A) Whenever there is a change in design, construction, operation, or maintenance at the facility, which may have a significant effect on the potential for the discharge of pollutants to surface waters of the state.
 - (B) Upon written notice by the Commissioner that the SWP3 proves to be ineffective in controlling pollutants in storm water discharges exposed to industrial activity. Within sixty (60) days of such notification from the Commissioner, the permittee

shall make the required changes to the SWP3 and shall submit the amended plan to the Commissioner for review.

- (5) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWP3, these plans may be referenced, at the permittee's discretion, in the appropriate sections of the SWP3 to meet those section requirements.
- (6) The permittee may combine the requirements of the SWP3 with another written plan if:
 - (A) The plan is retained at the facility and available for review;
 - (B) All the requirements of the SWP3 are contained within the plan; and
 - (C) A separate, labeled section is utilized in the plan for the SWP3 requirements.

L. WHOLE EFFLUENT TOXICITY LIMITATIONS

1. During the period beginning five years from the effective date of the permit, the permittee shall comply with the discharge limitations and monitoring requirements for whole effluent toxicity as specified below:

WET Effluent Limitations

Parameter	Outfall	Monthly [1] Average	Daily [1] Maximum	Frequency	Sample Type
Chronic Toxicity	005	1.0 TU _c	-----	Quarterly	24-Hr. Comp.
Chronic Toxicity	034	3.3 TU _c	-----	Quarterly	24-Hr. Comp.

2. Whole Effluent Toxicity Reporting

Within 90 days of the effective date of the permit, US Steel shall initiate the series of bioassay tests described below to monitor the toxicity of the discharge from outfalls 005, 010, 028/030, and 034 on a monthly basis for the first three (3) months and thereafter quarterly for the duration of the NPDES permit.

WET Effluent Monitoring

Parameter	Outfall	Monthly [1] Average	Daily [1] Maximum	Frequency	Sample Type
Chronic Toxicity	010	Report	-----	Quarterly	24-Hr. Comp.
Chronic Toxicity	028/030	Report	-----	Quarterly	24-Hr. Comp.

3. Test Procedures

a. Bioassay Test Procedures and Data Analysis

- (1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Fourth Edition Section 13, Cladoceran (Ceriodaphnia dubia) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (Pimephales promelas) Larval Survival and Growth Test Method, (1000.0) EPA 821-R-02-013, October 2002, or most recent update.
- (2) Any circumstances not covered by the above methods, or that required deviation from the specified methods shall first be approved by the IDEM's Environmental Toxicology and Chemistry Section.
- (3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for chronic toxicity endpoints as outlined in Section 9, and in Sections 11 and 13 of the respective Test Method (1000.0 and 1002.0) of Short-term Methods of Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA-821-R-02-013), Fourth Edition, October 2002, or most recent update.

b. Types of Bioassay Tests

The permittee shall conduct 7-day Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test and a 7-day Fathead Minnow (Pimephales promelas) Larval Survival and Growth Test on samples of final effluent. All tests will be conducted on 24-hour composite samples of final effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of the effluent collected on alternate days shall be used to renew the test solutions.

If, in any control, more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7 days, that test shall be repeated. In addition, if in the Ceriodaphnia test control the number of newborns produced per surviving female is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow test if the mean dry weight of surviving in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

- (1) Samples taken for the purposes of Whole Effluent Toxicity Testing will be taken at a point that is representative of the discharge, but prior to discharge. The maximum holding time for whole effluent is 36 hours for a 24 hour composite sample. Bioassay tests must be started within 36 hours after termination of the 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.
- (2) Chemical analysis must accompany each effluent sample taken for bioassay test. The analysis detailed under Part I.A. should be conducted for the effluent sample. Chemical analysis must comply with approved EPA test methods.

d. Testing Frequency and Duration

The chronic toxicity test specified in paragraph b.(1) above shall be conducted at least once every quarter for the duration of the permit. After three tests have been completed, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent.

If toxicity is demonstrated as defined under paragraph f., the permittee is required to conduct a toxicity reduction evaluation (TRE) as specified in Section 2.

e. Reporting

- (1) Results shall be reported according to EPA 821-R-02-013, Section 10 (Report Preparation). Two copies of the completed report for each test shall be submitted to the Data Management Section of IDEM no later than sixty days after completion of the test.
- (2) For quality control, the report shall include the results of appropriate standard reference toxic pollutant tests for chronic endpoints and historical reference toxic pollutant data with mean values and appropriate ranges for the respective test species Ceriodaphnia dubia and Pimephales promelas. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.
- (3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

f. Demonstration of Toxicity

- (1) Acute toxicity will be demonstrated if the effluent is observed to have LC_{50} of less than 100% effluent for the test organism in 48 hours for Ceriodaphnia, Daphnia, and in 96 hours for Pimephales promelas. If toxicity is found in any of the tests specified above, a confirmation acute toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two consecutive acute tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as described below. The whole effluent toxicity tests required by this section may be suspended while the TRE is being conducted.
- (2) If chronic toxicity exceeds levels specified in L.1 above, another toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two consecutive test indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as described below.

- (3) After three monthly chronic toxicity tests have been completed, that indicate no toxicity, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity is demonstrated as defined by Paragraph 1.f.

a. Development of TRE Plan

Within 90 days of determination of toxicity, the permittee shall submit plans for an effluent toxicity reduction evaluation (TRE) to the Data Management Section of IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicants and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications list below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characteristics Procedures, Second Edition (EPA/600/6-91/003, February 1991.

Phase II Toxicity Identification Procedures (EPA 600/3-88/035), February 1989.

Phase III Toxicity Confirmation Procedures (EPA 600/3-88/036), February 1989.

(2) Methods for Chronic Toxicity Identification
Phase I Characterization of Chronically Toxic Effluents
EPA/600/6-91/005, June 1991.

(3) Generalized Methodology for Conducting Industrial
Toxicity Reduction Evaluations (EPA/600/2-88/070),
March 1989.

(4) Toxicity Reduction Evaluation Protocol for Municipal
Wastewater Treatments Plants (EPA/600/2-88/062) April
1989.

b. Conduct the Plan

Within 30 days after the submission of the TRE plan to IDEM, the permittee must initiate an effluent TRE consistent with the TRE plan. Progress reports shall be submitted every 90 days to the Data Management and Compliance Evaluation Sections of the Office of Water Quality (OWQ) beginning 90 days after initiation of the TRE study.

c. Reporting

Within 90 days of the TRE study completion, the permittee shall submit to the Data Management and Compliance Evaluation Section of the Office of Water Quality (OWQ) the final study results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of whole effluent.

d. Compliance Date

The permittee shall complete items a, b, and c from Section 2 above and reduce the toxicity to acceptable levels as soon as possible, but no later than three years after the date of determination of toxicity.

e. Post-TRE Biomonitoring Requirements (Only Required After Completion of a TRE)

After the TRE, the permittee shall conduct monthly toxicity tests with 2 or more species for a period of three months. Should three consecutive monthly tests demonstrate no toxicity, the permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent, and conduct chronic tests every six months for the duration of the permit.

If toxicity is demonstrated, as defined in paragraph 1.f. above, after the initial three month period, testing must revert to a TRE as in Part 2 (TRE). These tests shall be conducted in accordance with the procedures under the Whole Effluent Toxicity Testing Section above.

M. REPORTING REQUIREMENTS FOR SOLVENTS, DEGREASING AGENTS, ROLLING OILS, WATER TREATMENT CHEMICALS AND BIOCIDES

Annually, US Steel will report as part of the fourth monthly Discharge

Monitoring Report of the following year, the total quantity (lbs/yr) of each solvent, degreasing agent, water treatment chemical, rolling oil and biocide that was purchased for that year and which can be present in any outfall regulated by this permit. This reporting requirement includes all surfactants, anionic, cationic and non-ionic, which may be used in part or wholly as a constituent in these compounds.

US Steel will maintain these files for a period of ten years. Files will include the Material Safety Data Sheet, FIFRA Label for each biocide, chemical name and CAS Number for each compound used. If these compounds contain proprietary material, US Steel may maintain this information in a separate file that can be accessed by U.S. EPA or IDEM personnel with appropriate authority.

N. TOXIC ORGANIC POLLUTANT MANAGEMENT PLAN

In order to use the Certification Statement for Total Toxic Organics on Page 41 of this permit, the Permittee is required to submit a management plan for toxic organic pollutants. The Toxic Organic Pollutant Management Plan is to be submitted to the Compliance Evaluation Section of the Office of Water Quality within ninety (90) days of the effective date of this permit, and is to include a listing of toxic organic compounds used, the method of disposal, and procedure for ensuring that these compounds do not routinely spill or leak into the process wastewater, non-contact cooling water, groundwater, storm water, or other surface waters.

Upon review by IDEM of the above report the Permittee may be required to perform additional specific monitoring for toxic organics, or may be allowed to use the Certification Statement on Page 41.

O. VISIBLE OIL CORRECTIVE ACTION MONITORING PROGRAM

The permittee shall monitor the Grand Calumet River and Lake Michigan, in the vicinity of Outfalls 005, 010, 015, 017, 018, 019, 020, 030, 033, 034, 035, and 037 in the manner, and following the procedures and protocol, identified in the "Visible Oil Corrective Action Monitoring Plan" (Final Report; August 3, 1990; Gary Works, USS Division of USX Corp.; Eidhleay Engineers, Inc., EEI Project No. 9490-5), as established between United States Steel and US EPA. Frequency shall be at a rate of 5 X Weekly. All records for this program shall be maintained at the facility for inspection and review by IDEM.

P. ZEBRA MUSSEL CONTROL AND CHLORINATION

As a means of controlling Zebra Mussel colonization at the US Steel Gary Works Facility, the permittee chlorinates the intake water on a continuous basis during the period between April 1 and November 30 of each year. Wastewater will be

de-chlorinated prior to discharge from an external Outfall. Currently, the affected outfalls are the following: 005, 010, 015, 018, 019, 020, 021, 023, 026, 028, 030, 032, 033, 034, 035, 037, 039, 040, 041A, and 041B.

In addition to the numeric effluent limitations specified at each individual outfall the following requirements shall apply:

The monthly average water quality based effluent limit (WQBEL) for Total Residual Chlorine is less than the limit of quantitation (LOQ) as defined below. Compliance with the monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for Total Residual Chlorine is greater than or equal to the LOD but less than the LOQ specified in the permit. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ.

For calculating the monthly average mass values, See Part III.F. of this permit.

At present, two methods are considered to be acceptable to IDEM, amperometric and DPD colorimetric methods, for chlorine concentrations at the level of 0.06 mg/l.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine	4500-Cl-D,E	0.02 mg/l	0.06 mg/l
Chlorine	4500-Cl-G	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ

The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

Q. CYANIDE REQUIREMENTS

Sample preservation procedures and maximum allowable holding times for cyanide, total or available (or CATC) are prescribed in Table II or 40 CFR Part

136. Note the footnotes specific to cyanide. Preservation and holding time information in Table II takes precedence over information in specific methods or elsewhere.

R. MERCURY MONITORING REQUIREMENTS

Mercury monitoring shall be conducted bi-monthly (i.e. every other month) for the term of the permit. Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year. Beginning no later than twelve (12) months from the effective date of the permit, the permittee shall begin using EPA Test Method 1631, "the most current version". If EPA Test Method 1631, "the most current version" is further revised during the term of the permit, the permittee and/or its contract laboratory are required to utilize the most current version of the method as soon as possible after approval by EPA but no later than the second monitoring event after the revision.

PART II
STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit in accordance with 327 IAC 5-2-8(1). Any permit noncompliance constitutes a violation of the Clean Water Act, and the Environmental Management Act, and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Penalties for Violations of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Water Pollution Control Board is liable for a civil penalty not to exceed twenty-five thousand dollars (\$25,000) per day of any violation. Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation commits a class C infraction.

Pursuant to IC 13-30-6, a person who intentionally, knowingly, or recklessly violates any provision of this permit, the water pollution control laws or a rule or standard adopted by the Water Pollution Control Board commits a class D felony punishable by the term of imprisonment established under IC 35-50-2-7(a) (up to one year), and/or by fine of not less than five thousand dollars (\$5,000) and not more than fifty thousand dollars (\$50,000) per day of violation. A person convicted for a violation committed after a first conviction of such person under this provision is subject to a fine of not more than one hundred thousand (\$100,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

3. Duty to Mitigate

Pursuant to 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

4. Permit Modification, Revocation, and Reissuance, and Termination

Pursuant to 327 IAC 5-2-8(4)(A), 327 IAC 5-2-8(4)(C) and 327 IAC 5-2-16(b), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

- a. Violation of any term or condition of this permit;
- b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts by the permittee in the application or during the permit issuance process.
- c. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by this permit.

The filing of a request by the permittee for a permit modification, revocation, and reissuance, or termination, or any information specified in Part II.A.5 of this permit does not stay or suspend any permit term or condition.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

- a. could significantly change the nature of, or increase the quantity of, pollutants discharged; or
- b. the commissioner may request to evaluate whether such cause exists.

5. Duty to Provide Information Requested by the Commissioner

Pursuant to 40 CFR 122.41(h), the permittee shall furnish to the Commissioner, within reasonable time, any information which the Commissioner may request to determine compliance with this permit. Pursuant to 327 IAC 5-1-3, the permittee shall furnish to the

Commissioner any reports or data necessary to carry out the provisions of 327 IAC 5 in such a manner as the Commissioner may reasonably prescribe.

6. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days in advance of the expiration date of this permit. The Commissioner may grant permission to submit an application less than 180 days in advance of the expiration date of this permit but no later than the permit expiration date.

7. Permit Transfer

In accordance with 327 IAC 5-2-6(c), this permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

- a. The current permittee notified the commissioner at least thirty (30) days in advanced of the proposed transfer date.
- b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgement that the existing permittee is liable for violations up to the date, and that the transferee is liable for violations from that date on) is submitted to the commissioner.
- c. The transferee certifies in writing to the commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the commissioner may allow a temporary transfer of the permit without the permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.

- d. The commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

8. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

9. Operator Certification

The permittee shall have the wastewater treatment facilities under supervision of an operator certified by the Commissioner as required by IC 13-18-11 and 327 IAC 5-22.

10. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

11. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal actions or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

12. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property right of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or an invasion of rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

13. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstances is held invalid, the application or such provision to other circumstances and the remainder of this permit shall not be affected thereby if such provisions can be given effect without the invalid provision or application.

14. Inspection and Entry

Pursuant to 327 IAC 5-2-8(7), the permittee shall allow the Commissioner, or an authorized representative (including an authorized contractor acting as a representative of the commissioner), upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a point source is located, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect, at reasonable times:
 - (1) any monitoring equipment or method;
 - (2) any collection, treatment, pollution management, or discharge facilities; or
 - (3) practices required or otherwise regulated under the permit.

- d. Sample or monitor at reasonable time, any discharge of pollutants or internal wastestream (where necessary to ascertain the nature of a discharge of pollutants) for the purpose of evaluating compliance with this permit or as otherwise authorized.

15. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality - Mail Code 65-42, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a pollutant parameter that is not a BCC unless one of the following is completed prior to the commencement of the action:

- a. Information is submitted to the Commissioner demonstrating that the proposed new or increased will not cause a significant lowering of water quality as defined under 327 IAC 5-2-11.3(b)(1). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.
- b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 5-2-11.3(b)(3) and (4).

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8).

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(11):

a. Terms as defined in 327 IAC 5-2-8(11)(A):

- (1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. The permittee may allow a bypass to occur that does not exceed any effluent limitations contained in this permit, but only if it is for essential maintenance to assure efficient operation. The permittee is not required to notify the Commissioner about bypasses that meet this definition. This provision will be strictly construed. These bypasses are not subject to the provisions of Part II.B.2.d and e of this permit.

c. Bypasses, as defined in (a) above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:

- (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;
- (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of

untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

- (3) The permittee submitted notices as required under Part II.B.2.e; or
 - (4) The condition under Part II.B.2.b above is met.
- d. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1.
- e. The permittee must provide the Commissioner with the following notice:
 - (1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.
 - (2) The permittee shall orally report an unanticipated bypass that exceeds any effluent limitations in the permit within 24 hours of becoming aware of the bypass noncompliance. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event.
- f. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.c. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(12):

- a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.
- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:
 - (1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;
 - (2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures; and
 - (3) The permittee complied with any remedial measures required under Part II.A.3;
 - (4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(10)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned alterations or additions to the facility. In this context, permit facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

- a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as outlined in 327 IAC 5-1.5.
- b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharge. This notification applies to pollutants that are subject either to effluent limitations in Part I.A. or to notification requirements in Part II.C.9. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(9) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in "Discharge Monitoring Reports", Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(10)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames.

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made

as soon as the permittee becomes aware of the noncomplying circumstances;

- c. Any upset that causes an exceedance any effluent limitations in the permit;
- d. Violation of a maximum daily discharge limitation for any of the following toxic pollutants: All parameters in the discharge limitations tables of the permit except CBOD₅, Total Suspended Solids, Oil & Grease, pH, Ammonia, Total Residual Chlorine, and Temperature.

The permittee can make the oral reports by calling (317)232-8670 during regular business hours or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass Fax Report" or a "Noncompliance Notification Report", whichever is appropriate, to IDEM at (317) 232-8637. If a complete fax submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the fax report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance

Pursuant to 327 IAC 5-2-8(10)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in the compliance schedule.

5. Other Information

Pursuant to 327 IAC 5-2-8(10)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(14):

- a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:
 - (1) For a corporation: by a responsible corporate officer defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation or the manager of one or more manufacturing, production or operating facilities employing more than two hundred fifty (250) persons or having the gross annual sales or expenditures exceeding twenty-five million dollars (\$25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned to the manager in accordance with corporate procedures.
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - (3) For a Federal, State, or local government body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.
- b. A person is duly authorized representative only if:
 - (1) The authorization is made in writing by a person described above.
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - (3) The authorization is submitted to the Commissioner.

- c. Certification. Any person signing a document identified under Part II.C.7., shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(14) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels."

(1) One hundred micrograms per liter (100µg/l);

- (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) A notification level established by the Commissioner on a case-by-case basis, either at his own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1),(2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).
- b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant which was not reported in the permit application under 40 CFR 122.21(g)(9).

PART III
OTHER REQUIREMENTS

A. Temperature Requirements

1. The following temperature effluent limitations and requirements shall apply to discharges to the Grand Calumet River, subject to the schedule of compliance in Part III.A.3. of this permit:

- a. The monitoring of the temperature of the discharge is to occur on a continuous basis from Outfall 005. Discharges from Outfall 005 shall meet the temperature limits outlined in Table 1 below, at a point approximately 100 feet downstream from the end of pipe. The temperature limits outlined in Table 1 below also apply at the monitoring locations designated as monitoring points 220 and 230 described below.

The monitoring of the Temperature is to occur on a continuous basis at the following locations in the Grand Calumet River:

Approximately 100 feet downstream of the US Steel Outfall 020, which shall be designated as monitoring point 220; and

Approximately 100 feet downstream of the US Steel Outfall 030, which shall be designated as monitoring point 230.

Temperature measurements taken in the Grand Calumet River at the above locations shall be taken at mid-stream and at a depth of approximately one meter below the water's surface.

- b. Temperature measurements at the above stated locations shall be recorded in one hour intervals. The highest single recorded measurement for each day shall be reported on the state monthly monitoring report for each day. The highest single recorded daily measurement shall be reported on the federal discharge monitoring report as the maximum daily temperature of that month.

The permittee shall submit an annual summary of the individual data points for the effluent temperature at the measuring point for Outfall 005 and the temperature measurements taken downstream of Outfalls 020 and 030 at monitoring points 220 and 230 respectively. The annual summary shall be sent no later than January 31st of the succeeding year to the Industrial NPDES

Permits Section of the Office of Water Quality, MC 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251. The annual summary shall be in a database using Microsoft Excel software copied to a compact disk.

- c. The temperature measured at the point approximately 100 feet downstream of Outfall 005 and at monitoring points 220 and 230 shall not exceed the maximum limits in Temperature Table 1 below during more than one percent (1%) of the hours in the twelve (12) month period ending with any month; at no time shall the temperature measured at a point approximately 100 feet downstream of Outfall 005, and at the monitoring points 220 and 230 exceed the maximum limits in Temperature Table 1 by more than three degrees Fahrenheit (3° F).

TEMPERATURE TABLE 1
Maximum Instream Water Temperatures (° F)

<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>
50	50	60	70	80	90
<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
90	90	90	78	70	57

- d. The number of hours where the measured temperature at the locations listed in Part III.A.1.a. above exceed the limits in Table 1 and the number of days where the measured temperature exceeds the limits in Table 1 by more than 3° F shall be reported on the state monthly monitoring report and the federal discharge monitoring report.
- e. The cumulative number of hours where the temperature measurements at 005, 220, or 230 exceed the limits in Table 1 during the most recent twelve (12) month period shall be reported on the state monthly monitoring report and the federal discharge monitoring report every month. The most recent twelve (12) months shall include the current month and the previous eleven (11) months.
- f. Monitoring at all other individual outfalls [010, 015, 018, 019, 020, 028, 030, and 034] shall be taken on the same day of the week. Where temperature is sampled at 6 grabs/day, the samples shall be

equally spaced throughout the day. The highest temperature value measured shall be the value reported for that day.

- g. There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
 - h. The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.
- 2. The following temperature effluent limitations and requirements shall apply to discharges from Outfalls 035, 037, and 039 to Lake Michigan.
 - a. In all receiving waters, the points of measurement normally shall be in the first meter below the surface at such depths necessary to avoid thin layer surface warming due to extreme ambient air temperatures, but where required to determine the true distribution of heated wastes and natural variations in water temperatures, measurements shall be at a greater depth and at several depths as a thermal profile. The permittee shall document the depth and location at which the measurement is taken and provide that information when requested.
 - b. There shall be no abnormal temperature changes so as to be injurious to fish, wildlife, or other aquatic life, or the growth or propagation thereof. In addition, plume interaction with the bottom shall be minimized and shall not injuriously affect fish, shellfish, and wildlife spawning or nursery areas.
 - c. The normal daily and seasonal temperature fluctuations that existed before the addition of heat shall be maintained.
 - d. Discharge flow, discharge temperature, and intake temperature shall be continuously monitored at each of the intake structures and at Outfalls 035, 037, and 039 discharge.
 - e. The facilities that discharge into the open waters of Lake Michigan shall be limited to the amount essential for blowdown in the operation of a closed cycle cooling facility:
 - (i) All facilities that have new waste heat discharges exceeding a daily average of five-tenths (0.5) billion British thermal units per hour. As used in this item, "new waste heat discharge" means a discharge that had not begun operations as of February 11, 1972.

- (ii) All facilities with existing waste heat discharges that increase the quantity of waste heat discharged by more than a daily average of five-tenths (0.5) billion British thermal units per hour.
- f. Thermal plumes shall not overlap or intersect except for discharges in existence as of the date that 327 IAC 2-2.5-8(c)(4)(D)(vii) became effective.
- g. Facilities discharging more than a daily average of five-tenths (0.5) billion British thermal units of waste heat shall continuously record intake and discharge temperature and discharge flow and make those records available to the public or regulatory agencies upon request.

The thermal discharge shall be computed as follows:

$$\text{Thermal Discharge (E*6 Btu./Hr.)} = Q \times (T_o - T_i) \times 0.3477$$

where,

E*6, converts to million Btu/Hr.

Q = 24 hour discharge flow, MGD.

T_o = 24 hour average effluent temperature, °F

T_i = 24 hour average intake temperature, °F

0.3477, conversion factor

- h. At any time and at a maximum distance of a one thousand (1,000) foot arc inscribed from a fixed point adjacent to the discharge:
 - (i) The receiving water temperature shall not be more than three degrees Fahrenheit (3° F) above the existing natural water temperature; and
 - (ii) Thermal discharges to Lake Michigan shall comply with the following maximum temperature requirements:
 - (1) The thermal discharge to Lake Michigan shall not raise the maximum temperature in the receiving water above those listed in the following table, except to the extent the permittee adequately demonstrates that the exceedance is caused by the water temperature of the intake water in accordance with Part III.A.2.h.(ii)(2):

Temperature Table 2
Maximum Water Temperature °F

January	45	July	80
February	45	August	80
March	45	September	80
April	55	October	65
May	60	November	60
June	70	December	50

- (2) If the permittee demonstrates that the intake water temperature is within three (3) degrees Fahrenheit below an applicable maximum temperature in Temperature Table (2) above, then no more than a three (3) degree Fahrenheit exceedance of the maximum water temperature shall be permitted.
- i. The permittee shall submit an annual summary of the individual data points for the effluent temperature at Outfalls 035, 037, and 039 discharge. The annual summary shall be sent no later than January 31st of the succeeding year to the Industrial NPDES Permits Section of the Office of Water Quality, MC 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251. The annual summary shall be in a database using Microsoft Excel software copied to a compact disk.
3. SCHEDULE OF COMPLIANCE FOR FINAL TEMPERATURE LIMITATIONS, CONTINUOUS TEMPERATURE AND CONTINUOUS FLOW MONITORING REQUIREMENTS.
- a. The permittee shall achieve compliance with the continuous monitoring and reporting requirements specified for effluent temperature at Outfall(s) 037, and 039, and for continuous monitoring in the Grand Calumet River at points 220 and 230, and at a point approximately 100 feet downstream of Outfall 005 as specified in Part III.A.1., and for intake temperature and flow for Outfalls 037 and 039 within twelve (12) months from the effective date of this permit.
- b. The permittee shall achieve compliance with the final effluent limitations for Temperature at Outfall 005 and at the locations designated as 220 and 230 on the Grand Calumet in accordance with the following schedule:

- (i) The permittee shall submit a written progress report to the Compliance Evaluation Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. The progress report shall include a description of the method(s) selected for meeting the newly imposed limitation for temperature, in addition to any other relevant information. The progress report shall also include a specific time line specifying when each of the steps will be taken. The new effluent limits for temperature are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as data for 12 months indicates that the newly imposed effluent limits for temperature can be met.

Upon receipt of such notification by OWQ, the final limits for temperature will become effective, but no later than thirty-six (36) months from the effective date of this permit. Monitoring and reporting of the effluent for temperature is required during the interim period and is detailed in Part III.A.4. below.

- (ii) The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than eighteen (18) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
- (iii) The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than twenty-seven (27) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.
- (iv) Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

- (v) The permittee shall comply with the final effluent limitations for temperature no later than thirty-six (36) months from the effective date of this permit.
- c. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Evaluation Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.

4. INTERIM TEMPERATURE REQUIREMENTS

- a. During the compliance schedule period, US Steel shall comply with the following interim temperature requirements:
 - (i) Temperature shall be measured and reported at the Outfall 005 instream monitoring location at the frequency stated in Part I.A. of the permit until the maximum one year compliance schedule provided in Part III.A.3. has been completed. The samples taken shall be equally spaced throughout the day with the highest temperature value measured for that day reported.
 - (ii) The permittee shall monitor and report the temperature of the Grand Calumet River at Broadway Street on a continuous basis until the maximum one year compliance schedule provided in Part III. A.3. has been completed at 220 and 230.

Temperature measurements at Broadway Street shall be recorded in one hour intervals. The highest single recorded measurement for each day shall be reported on the state monthly monitoring report for each day. The highest single recorded daily measurement shall be reported on the federal discharge monitoring report as the maximum daily temperature of that month.

The permittee shall monitor and report the temperature downstream of Outfall 034 at the Clark Street Bridge 1 X weekly during the months of December, January, and February, and 2 X Monthly during the other months of the year until the maximum one year compliance schedule provided in Part III.3. has been completed. The

measurements shall be taken at three equally spaced intervals across the width of the river at Clark Street. The measurements shall be taken between the hours of 12:01 and 6:00 p.m.

- (iii) Thermal content of the US Steel discharges shall not raise the instream temperature at the Broadway Street Bridge above the maximum Indiana Water Quality Standards temperatures in Table 3 below except as stated in (iv) and (v) below:

Temperature Table 3
Maximum Instream Temperatures (° F)

<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>
50	50	60	70	80	90
<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
90	90	90	78	70	57

- (iv) The water temperature shall not exceed the maximum limits in the table above during more than one percent (1%) of the hours in the twelve (12) month period ending with any month.
- (v) At no time shall the water temperature at such locations exceed the maximum limits in (iii) above by more than three degrees Fahrenheit (3° F). This limitation also applies at the Clark Street Bridge.

B. BIOCIDES

The permittee must receive written permission from the Indiana Department of Environmental Management to use any biocide or molluscicide other than those which have been previously submitted and received written approval at the time the permit became effective.

C. COOLING WATER INTAKE STRUCTURE

Water intakes shall be designed and located to minimize entrainment and damage to desirable organisms. Requirements may vary depending upon local conditions but, in general, intakes shall have minimum water velocity and shall not be located in spawning or nursery areas of important fishes. Water velocity at screens and other exclusion devices shall also be at a minimum.

D. PHASE III INTAKE STRUCTURE REGULATIONS

Clean Water Act 316(b) Phase III regulations will establish the best technology available for cooling water intake structures at existing industrial type facilities. This facility shall comply with the applicable requirements of the rule. If the rule is withdrawn, invalidated or revised prior to becoming final, or as the result of any reconsideration or appeal, then compliance shall be required only with respect to any revised or reissued final rule.

E. INTAKE SCREEN WASH

The discharge of Intake Screen Backwash shall meet the Narrative Water Quality Standards contained in Part I.B. of the permit.

F. SPECIAL REPORTING REQUIREMENTS

1. NPDES effluent data are to be reported on the monthly DMRs as follows:
 - a. Daily Values
 - (i) Effluent concentrations less than the limit of detection (LOD) shall be reported as less than the value of the LOD. For example, if a substance is not detected at a concentration of one (1.0) milligram per liter, the value shall be reported as <1.0 mg/l.
 - (ii) Effluent concentrations greater than or equal to the LOD shall be reported at the measured result. Effluent concentrations greater than or equal to the LOD and less than the limit of quantification (LOQ) that are reported on a DMR shall be annotated on the DMR to indicate that the result is not quantifiable.
 - (iii) Mass discharge results which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge result.
 - (iv) Mass discharge values that are calculated from effluent concentrations greater than the limit of detection but less than the limit of quantitation shall be reported as the calculated value. These values shall be annotated on the DMR to indicate that the value is not quantifiable.

Mass discharge values that are calculated from effluent concentrations equal to and greater than the limit of quantitation shall be reported on the DMR as the calculated value.

2. Averaging Analytical Values When One or More Values are Less than the LOQ.

Where the permittee samples more than once per month and obtains an analytical data base that contains concentration results below the LOQ, the permittee shall utilize the following protocol that sets a value to be used for analytical below the LOQ according to their frequency of occurrence. These values can then be used to calculate the average value for DMR reporting.

a. For results that are less than the LOD:

$$V_{LOD} \text{ (or values)} = (LOD) * (F_{LOD}) \quad \text{Eqn.1}$$

Where:

$$F_{LOD} = 1 - \frac{\text{Number of Results Less Than the LOD}}{\text{Total Number of Results}} \quad \text{Eqn.2}$$

b. For results that are less than the LOQ (including results that are less than or equal to the LOD):

$$V_{LOQ} \text{ (or values)} = (LOQ) * (F_{LOQ}) \quad \text{Eqn.3}$$

Where:

$$F_{LOQ} = 1 - \frac{\text{Number of Results Less Than the LOQ}}{\text{Total Number of Results}} \quad \text{Eqn.4}$$

c. Process of generating database to be used to calculate monthly averages:

(1) For concentration values:

- (a) LOD = The concentration-based LOD obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit.
- (b) LOQ = The concentration-based LOQ obtained from the table of analytical methods and detection

and quantitation levels in Part I.C.4.d. of this permit.

- (c) All individual concentration results below the concentration-based LOD are assigned the value of V_{LOD} . This "V" is referred to as the " $V_{LOD} - \text{conc.}$ ".
 - (d) All individual concentration results below the concentration-based LOQ, but greater than or equal to the LOD are assigned the value of V_{LOQ} . This "V" is referred to as the " $V_{LOD} - \text{conc.}$ ".
- (2) For mass values:
- (a) Generate a mass result from the corresponding concentration result and flow, converted to mass. This result is presented on the DMR.
 - (b) The "Number of Results Less than LOD", as used in Equation 2, is the number of concentration results below the concentration-based LOD.
 - (c) The "Number of Results Less Than the LOQ", as used in Equation 4, is the number of concentration results below the concentration-based LOQ (including the number of results less than the concentration-based LOD).
 - (d) The mass-based LOD, as used in the calculations of "V", as used in Equation 1, is obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit. This "V" is referred to as the " $V_{LOD} - \text{mass}$ ".
 - (e) The mass-based LOQ, as used in the calculation of "V", as used in Equation 3, is obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit. This "V" is referred to as the " $V_{LOQ} - \text{mass}$ ".
 - (f) If the corresponding concentration result is less than the concentration-based LOD, then the mass value is the $V_{LOD} - \text{mass}$.

- (g) If the mass result is less than the mass-based LOQ and the corresponding concentration result is less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD, then V_{LOQ} - mass is used.
- (h) If the mass result is greater than or equal to the mass-based LOQ and the corresponding concentration result is less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD, then V_{LOQ} - mass is used.
- (i) If the mass result is less than the mass-based LOQ and the corresponding concentration result is greater than or equal to the concentration-based LOQ, then the mass result is used.
- (j) If the mass result is greater than or equal to the mass-based LOQ and the corresponding concentration result is greater than or equal to the concentration-based LOQ, then the mass result is used.

All data points now have values and can be arithmetically averaged.

d. Example:

(1) Discharge Data

Assume the following are true:

- (a) The effluent flow is 1.0 MGD
- (b) Concentration-based permit limits are $15\mu\text{g/l}$ as a monthly average and $20\mu\text{g/l}$ as a daily maximum.
- (c) Mass-based permit limits are 0.13 lbs/day monthly average and 0.17 lbs/day daily maximum.
- (d) Concentration-based LOD is $3.2\mu\text{g/l}$
- (e) Concentration-based LOQ is $10\mu\text{g/l}$
- (f) Mass-based LOD is 0.027 lbs/day

(g) Mass-based LOQ is 0.083 lbs/day

Actual Data (DMR Results)			Calculated Data (See Below)	
Concentration ($\mu\text{g/l}$)	Flow (MGD)	Mass (lbs/day)	Concentration ($\mu\text{g/l}$)	Mass (lbs/day)
<3.2	.09	<0.002	2.84	0.024
8	1.5	0.10	6.67	0.055
23	0.6	0.12	23	0.12
12	1.2	0.12	12	0.12
8	0.9	0.06	6.67	0.055
15	0.8	0.10	15	0.10
20	0.6	0.10	20	0.10
18	1.1	0.17	18	0.17
12	0.6	0.06	12	0.06
Monthly Average (for DMR)=			13	0.089

(2) **Concentration monthly average calculations:**

- (a) The number of results below the concentration-based LOD is one (1), and the total number of values is (9), therefore:

$$F_{\text{LOD}} = 1 - (1/9) = 0.889$$

$$V_{\text{LOD} - \text{conc.}} = (3.2) * 0.889 = 2.84 \mu\text{g/l}$$

- (b) The number of results below the concentration-based LOQ (including the results below the concentration-based LOD) is three (3), and the total number of values is nine (9), therefore:

$$F_{\text{LOQ}} = 1 - (3/9) = 0.667$$

$$V_{\text{LOQ} - \text{conc.}} = (10) * 0.667 = 6.67 \mu\text{g/l}$$

- (c) For the purposes of calculating a monthly average value to put on the DMR, the one (1) daily result below the LOD is assigned a value of 2.84 $\mu\text{g/l}$, and the two (2) daily results below the LOQ (but greater than or equal to the LOD) are each assigned a value of 6.67 $\mu\text{g/l}$. (The concentration values of 2.84 $\mu\text{g/l}$ and 6.67 $\mu\text{g/l}$ shall not be put on the state DMR, instead, the daily results are to be put on the state DMR.)

- (d) The arithmetic average is:

$$(2.84+6.67+23+12+6.67+15+20+18+12)/9 = 13 \mu\text{g/l}$$

The permittee would report a daily maximum of 23 $\mu\text{g/l}$ and a monthly average of 13 $\mu\text{g/l}$ on the DMR forms. In this example, the permittee complies with the monthly average permit limit but has a violation of the daily maximum limit.

(3) Mass monthly average calculations:

- (a) The number of mass results is nine (9). The number of mass results calculated from a corresponding concentration result less than the concentration-based LOD is one (1). This mass result is assigned a mass value that is calculated as follows:

$$V_{\text{LOD}} - \text{mass} = (0.027 \text{ lbs/day}) * 0.889 = 0.024 \text{ lbs/day}$$

[NOTE $F_{\text{LOD}} = 0.889$ based on the number of concentration results less than concentration-based LOD]

- (b) The number of mass results calculated from a corresponding concentration result less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD is two (2). These two (2) mass results are assigned a mass value that is calculated as follows:

$$V_{\text{LOQ}} - \text{mass} = (0.083 \text{ lbs/day}) * 0.667 = 0.055 \text{ lbs/day}$$

[NOTE $F_{\text{LOQ}} = 0.667$ based on the number of concentration results less than concentration-based LOQ (including the number of concentration results less than the concentration-based LOD)]

- (c) The arithmetic average is:
 $(0.024+0.055+0.12+0.12+0.055+0.10+0.10+0.17+0.06)/9 = 0.089 \text{ lbs/day}$

The permittee would report a daily maximum of 0.17 lbs/day and a monthly average of 0.089 lbs/day on the DMR forms. In this example, the permittee

complies with both the monthly average and the daily maximum permit limits.

G. POLYCHLORINATED BIPHENYL

There shall be no discharge of polychlorinated biphenyl (PCBs) compounds such as those commonly used for transformer fluid.